DS-7200-ST Series DVR

USER MANUAL

Version 1.3.0

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Hikvision® Network Digital Video Recorder User's Manual

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Regulatory Information

FCC Information

FCC compliance: This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

CE

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC.

2002/96/EC (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Description on Laser Specification

The optical disc drive such as DVD Super Multi (Double Layer) Drive 22X that is used in this computer is equipped with laser. The classification label with the following sentence is affixed to the surface of the drive.

CLASS 1 LASER
PRODUCT TO IEC60825-1
LASER KLASSE 1
The drive with the above label is certified by the manufacturer that the drive complies with the requirement for laser product on the date of manufacturing pursuant to article 21 of Code of Federal Regulations by the United States of America, Department of Health & Human Services, Food and Drug Administration.
In other countries, the drive is certified to comply with the requirement pursuant to IEC 60825-1 and EN 60825-1 on class 1 laser product.
This computer is equipped with the optical disc drive in the following list according to the model.

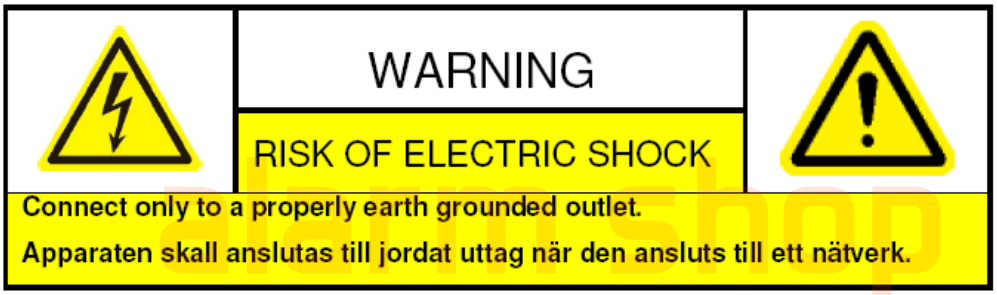
Safety Warnings and Cautions

Please pay attention to the following warnings and cautions:

Hazardous Voltage may be present: Special measures and precautions must be taken when using this device. Some potentials (voltages) on the device may present a hazard to the user. This device should only be used by the Employees from our company with knowledge and training in working with these types of devices that contain live circuits.

Caution
The power supply in this product contains no user-serviceable parts. Refer servicing only to qualified personel.

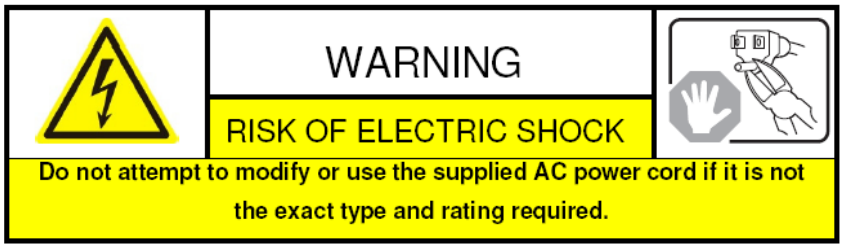
Power Supply Hazardous Voltage: AC mains voltages are present within the power supply assembly. This device must be connected to a UL approved, completely enclosed power supply, of the proper rated voltage and current. **No user serviceable parts inside the power supply.**


WARNING
RISK OF ELECTRIC SHOCK
Connect only to a properly earth grounded outlet.
Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk.

System Grounding (Earthing): To avoid shock, ensure that all AC wiring is not exposed and that the earth grounding is maintained. Ensure that any equipment to which this device will be attached is also connected to properly wired grounded receptacles and are approved medical devices.

Power Connect and Disconnect: The AC power supply cord is the main disconnect device to mains (AC power).The socket outlet shall be installed near the equipment and shall be readily accessible.

Installation and Maintenance: Do not connect/disconnect any cables to or perform installation/maintenance on this device during an electrical storm.


WARNING
RISK OF ELECTRIC SHOCK
Do not attempt to modify or use the supplied AC power cord if it is not the exact type and rating required.

Power Cord Requirements: The connector that plugs into the wall outlet must be a grounding-type male plug designed for use in your region. It must have certification marks showing certification by an agency in your region. The connector that plugs into the AC receptacle on the power supply must be an IEC 320, sheet C13, female

connector. See the following website for more information http://kropla.com/electric2.htm.

Lithium Battery: This device contains a Lithium Battery. There is a risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to the vendor's instructions and in accordance with local environmental regulations.

Perchlorate Material: Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate. This notice is required by California Code of Regulations, Title 22, Division 4.5, Chapter 33: Best Management Practices for Perchlorate Materials. This device includes a battery which contains perchlorate material.

Taiwan battery recycling:

Please recycle batteries.

Thermal and Mechanical Injury: Some components such as heat sinks, power regulators, and processors may be hot; care should be taken to avoid contact with these components.

Electro Magnetic Interference: This equipment has not been tested for compliance with emissions limits of FCC and similar international regulations. This device is not, and may not be, offered for sale or lease, or sold, or leased until authorization from the United States FCC or its equivalent in other countries has been obtained. Use of this equipment in a residential location is prohibited. This equipment generates, uses and can radiate radio frequency energy which may result in harmful interference to radio communications. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is required to take measures to eliminate the interference or discontinue the use of this equipment.

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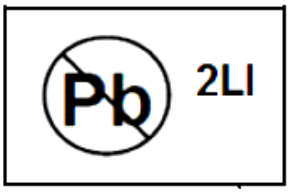
Lead Content:



Please recycle this device in a responsible manner. Refer to local environmental regulations for proper recycling; do not dispose of device in unsorted municipal waste.

Thank you for purchasing our product. If there is any question or request, please do not hesitate to contact dealer.

This manual is applicable to DS-7204HVI-ST, DS-7208HVI-ST, DS-7216HVI-ST; DS-7204HVI-ST/SE, DS-7208HVI-ST/SE, DS-7216HVI-ST/SE; DS-7204HFI-ST, DS-7208HFI-ST, DS-7216HFI-ST; DS-7204HFI-ST/SE, DS-7208HFI-ST/SE, DS-7216HFI-ST/SE; DS-7204HVI-ST/SN, DS-7208HVI-ST/SN, DS-7216HVI-ST/SN; DS-7204HFI-ST/SN, DS-7208HFI-ST/SN, DS-7216HFI-ST/SN; DS-7204HVI-ST/RW, DS-7208HVI-ST/RW, DS-7216HVI-ST/RW; DS-7204HFI-ST/RW, DS-7208HFI-ST/RW, DS-7216HFI-ST/RW; and DS-7204HVI-ST/L series DVR.

This manual may contain several technically incorrect places or printing errors, and the content is subject to change without notice. The updates will be added into the new version of this manual. We will readily improve or update the products or procedures described in the manual.

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Preventive and Cautionary Tips

Before connecting and operating your DVR, please be advised of the following tips:

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the DVR.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the DVR in conjunction with an UPS if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this device.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

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C H A P T E R 1

Introduction

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Overview

Developed on the basis of the latest technology, DS-7200-ST Series Digital Video Recorder combines the latest in advanced H.264 video encoding and decoding technologies delivering high performance rock-solid reliability and longer recording times.
DS-7200-ST Digital Video Recorder can be used as a standalone video surveillance product, as well as to build up a powerful surveillance network making it is perfect for home or small business applications.

Figure 1. DS-7204HVI-ST, DS-7204HVI-ST/SE, DS-7204HFI-ST, DS-7204HFI-ST/SE Series DVR

Figure 2. DS-7208HVI-ST, DS-7208HVI-ST/SE, DS-7208HFI-ST, DS-7216HFI-ST, DS-7208HFI-ST/SE, DS-7216HFI-ST/SE Series DVR

Figure 3. DS-7216HVI-ST, DS-7216HVI-ST/SE Series DVR

Figure 4. DS-7200HVI-ST/SN, DS-7204HFI-ST/SN, DS-7208HFI-ST/SN Series DVR

Figure 5. DS-7216HFI-ST/SN Series DVR

Figure 6. DS-7200HVI-ST/RW, DS-7200HFI-ST/RW Series DVR

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Figure 7. DS-7204HVI-ST/L Series DVR

Product Features

Compression

- PAL/NTSC adaptive video inputs.
- H.264 video compression with high reliability and superior definition.
- G.711 audio compression standard.
- Independent video encoding parameters, including frame rate, resolution, bit rate, video quality, etc.
- Normal and event recording parameters configurable for per individual camera.
- Support dual stream.
- Channel zero encoding for live view via network.
- Encoding for both audio/video composite stream and video stream; audio and video synchronization during composite stream encoding.
- Compression, storage and network transmission of video image at 4CIF, 2CIF or CIF resolution.
- Watermark technology.

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Local Monitoring

- Up to 1280×1024 resolution for VGA output display.
- Simultaneous VGA and CVBS output.
- Multi-camera video live view, with the camera order adjustable.
- Group switch, manual switch and automatic cycle modes selectable for video live view, with the auto cycle period configurable.
- Digital zoom in live view mode.
- Shield of assigned channel for live view.
- Privacy masking capability.
- Multiple PTZ protocols supported, and settings and callup of presets, patrols and patterns.
- Video image zoom-in by clicking the mouse and tracing by dragging mouse in PTZ control mode.

Hard Disk Management

- Connection to 1 SATA hard disk for DS-7204HVI-ST, DS-7204HVI-ST/SE, DS-7208HVI-ST/SE, DS-7200HVI-ST/SN, DS-7204HFI-ST, DS-7204HFI-ST/SE, DS-7204HFI-ST/SN, DS-7208HFI-ST/SN and DS-7204HVI-ST/L models, and 2 SATA hard disks for DS-7208HVI-ST, DS-7216HVI-ST, DS-7216HVI-ST/SE, DS-7208HFI-ST, DS-7216HFI-ST, DS-7208HFI-ST/SE, DS-7216HFI-ST/SE, DS-7216HFI-ST/SN, DS-7200HVI-ST/RW and DS-7200HFI-ST/RW models; each HDD with up to 4TB storage capacity.
- S. M. A. R. T technology.
- HDD standby function.
- HDD file system is compatible with Windows. Use pre-allocating hard disk management technology, and no disk fragments.

Record & Playback

- Cycle and non-cycle recording mode.
- Normal and event video encoding parameters.
- Multiple recording types, including manual, normal, alarm, motion, motion | alarm and motion & alarm recording, etc.
- 8 recording time periods with separate recording types.
- Pre-record and Post-record time for alarm and motion detection, and pre-record time for scheduled and

manual recording.
- Lock and unlock of video files.
- Redundant recording.
- HDD property can be set to read-only and redundancy.
- Video data search and playback by channel number, recording type, event, time, etc.
- Digital zoom function in playback mode.
- Pause, play reverse, play fast, play slow, skip forward, and skip backward when playback, locating in progress bar by dragging the mouse.
- Up to 4/8/16-channel synchronous playback.

Note: DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models provide no alarm, motion | alarm and motion & alarm recording types.

Backup
- Record files backed up via USB or SATA device.
- Bunch backup by file or by time.
- Record files edited for backup in playback.
- Management and maintenance for backup devices.

Alarm & Exception
- Configurable arming time for alarm in/out.
- Various exception alarm types supported: alarms for video loss, motion detection, video tempering, video in/out format unmatched, illegal access, network disconnection, IP conflict, hard disk error and hard disk full.
- Various exception alarm handling methods: pop-up alarm image on monitor, audible warning, notify surveillance center, trigger alarm output, send Email, etc.
- Auto recovery from exceptions.

Note: DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models provide no alarm in/out; DS-7204HVI-ST/SE and DS-7204HVI-ST/SN models do not support sending Email with attached alarm images.

Others
- Control of DVR via mouse and IR remote control.
- Three-level user management, each user with individual operating permission for DVR and camera.
- Powerful record and search for log of operation, alarm and exceptions.
- Import/export of device configuration files.

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Network
- 10M / 100M adaptive network interface.
- TCP/IP protocol suites, PPPoE, DHCP, DNS, DDNS, NTP, SADP protocols, etc.
- Unicast and multicast supported; TCP and UDP protocols applicable in unicast transmission.
- DDNS protocol selectable to easyDDNS, IpServer, DynDNS, PeanutHull or NO-IP.
- Remote search, playback and download, lock/unlock of video files.
- Support breakpoint resume.
- Remote access and configuration of parameters; remote import/export of device configuration parameters.
- Remote access of device running status, system log and alarm status.
- Remote formatting of hard disk, upgrade, reboot/shutdown and other system maintenance operations.
- RS -485 transparent channel transmission.
- Event alarm and exceptions upload to remote management host.
- Remote manual recording.
- Remote video image capture in JPEG format.
- Remote PTZ control.
- Voice talk and broadcast.
- Built-in WEB Server.

Development
- Provision of SDK in Windows and Linux operating systems.
- Application software source code of Demo.
- Support and training service for application system development.

Product Application Diagram

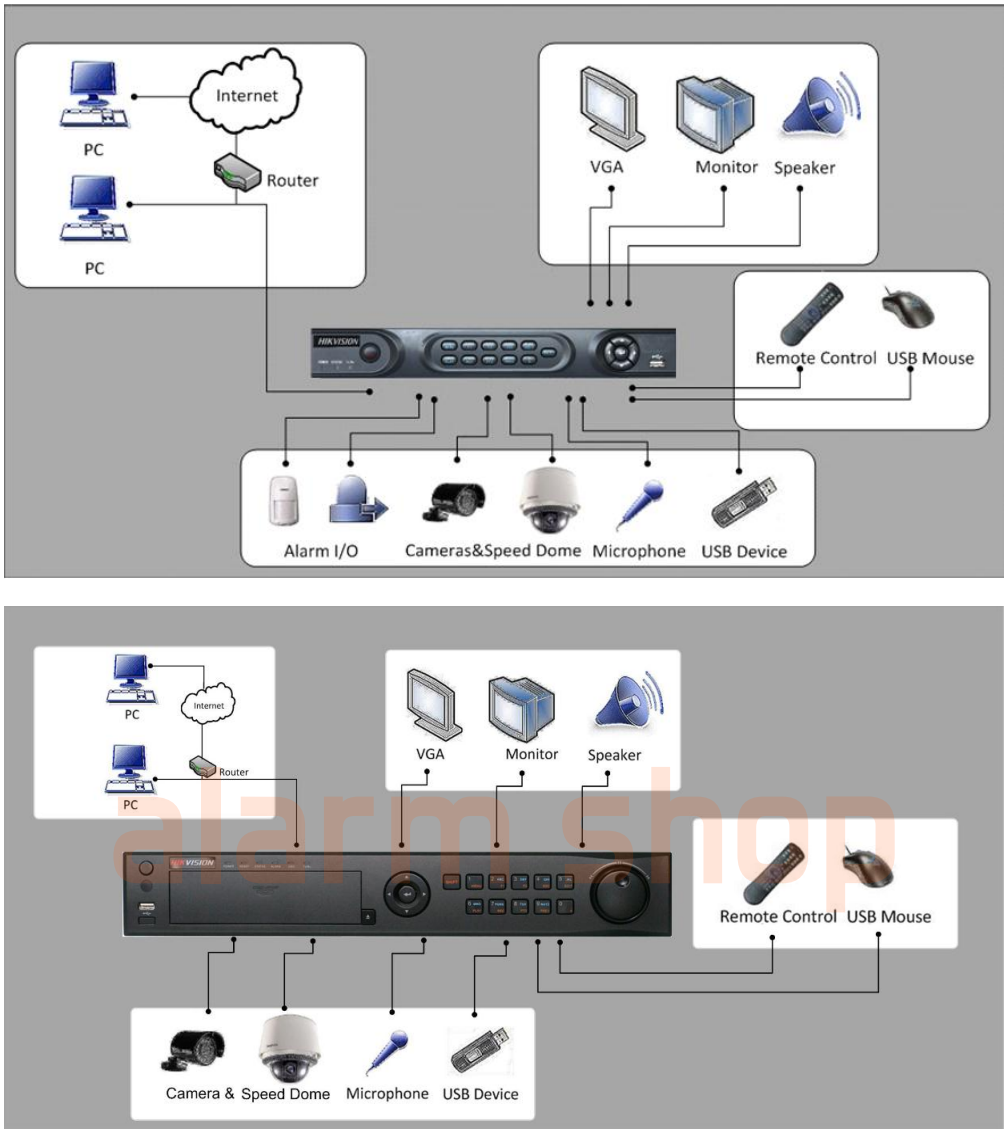

Figure 8. Product Application Diagram

Operating Your DVR

There are numerous ways to navigate and operate your DVR. You may use the **Front Panel Controls,** the included **IR (Infrared) Remote**, a **Mouse** and the **Soft Keyboard**.

Front Panel

DS-7204HVI-ST, DS-7204HVI-ST/SE, DS-7204HFI-ST, DS-7204HFI-ST/SE:

Figure 9. DS-7204HVI-ST, DS-7204HVI-ST/SE, DS-7204HFI-ST, DS-7204HFI-ST/SE Front Panel

1. **Status Indicators:**
   - **POWER**: the POWER indicator turns green when DVR is powered up.
   - **STATUS**: the indicator lights when the compound key switches to numeric/letter input mode.
   - **Tx/Rx**: TX/RX indictor flickers green when network connection is functioning normally.
2. **IR Receiver:** operation by IR remote control.
3. **Compound Buttons:**
   - **1 MENU**: (1) Enter numeral "1"; (2) Access the main menu interface
   - **2ABC/F1**: (1) Enter numeral "2"; (2) Enter letters "ABC"; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
   - **3DEF/F2**: (1) Enter numeral "3"; (2) Enter letters "DEF"; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
   - **4GHI/ESC**: (1) Enter numeral "4"; (2) Enter letters "GHI" (3) Exit and back to the previous menu
   - **5JKL/EDIT**: (1) Enter numeral "5"; (2) Enter letters "JKL"; (3) Delete characters before cursor; (4)Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback
   - **6MNO/PLAY**: (1) Enter numeral "6"; (2) Enter letters "MNO"; (3) Playback, for direct access to playback interface
   - **7PQRS/REC**: (1) Enter numeral "7"; (2) Enter letters "PQRS"; (3) Manual record, for direct access to manual record interface; manually enable/disable record
   - **8TUV/PTZ**: (1) Enter numeral "8"; (2) Enter letters "TUV"; (3) Access PTZ control interface.
   - **9WXYZ/PREV**: (1) Enter numeral "9"; (2) Enter letters "WXYZ"; (3) Multi-camera display in live view.
   - **0/A**: (1) Enter numeral "0"; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input)
4. **SHIFT:** Switch of compound keys between the numeric/letter input and functional control.
5. **Control Buttons:**
   - **Directional buttons:** In menu mode, the *direction* buttons are used to navigate between different fields and items and select setting parameters. In playback mode, the *Up* and *Down* buttons are used to speed up and slow down record play, and the *Left* and *Right* buttons are used to select the recording 30s forwards or backwards. In live view mode, these buttons can be used to cycle through channels.
   - **Enter:** The *Enter* button is used to confirm selection in menu mode; or used to select checkbox fields and ON/OFF switch. In playback mode, it can be used to play or pause the video. In single-frame play mode, pressing the *Enter* button will advance the video by a single frame. And in auto sequence live view mode, the buttons can be used to pause / resume auto sequence.
6. **USB Interface:** Connects USB mouse or USB flash memory devices.

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DS-7208HVI-ST, DS-7208HVI-ST/SE, DS-7208HFI-ST, DS-7216HFI-ST, DS-7208HFI-ST/SE, DS-7216HFI-ST/SE:

Figure 10. DS-7208HVI-ST, DS-7208HVI-ST/SE, DS-7208HFI-ST, DS-7216HFI-ST, DS-7208HFI-ST/SE, DS-7216HFI-ST/SE Front Panel

1. **USB Interface:** Connects USB mouse or USB flash memory devices.
2. **Status Indicators**:
   - **POWER**: the indicator lights in green when DVR is powered up.
   - **READY**: the indicator lights in green when the device is running normally.
   - **STATUS**: the indicator lights when the compound key switches to numeric/letter input mode.
   - **ALARM**: the indicator lights in red when there is sensor alarm occurring.
   - **HDD**: the indicator flickers in red when HDD is reading/writing.
   - **Tx/Rx**: TX/RX indictor flickers green when network connection is functioning normally.
3. **IR Receiver:** operation by IR remote control.
4. **Compound Buttons:**
   - **1 MENU**: (1) Enter numeral "1"; (2) Access the main menu interface
   - **2ABC/F1**: (1) Enter numeral "2"; (2) Enter letters "ABC"; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
   - **3DEF/F2**: (1) Enter numeral "3"; (2) Enter letters "DEF"; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
   - **4GHI/ESC**: (1) Enter numeral "4"; (2) Enter letters "GHI"
     (3) Exit and back to the previous menu
   - **5JKL/EDIT**: (1) Enter numeral "5"; (2) Enter letters "JKL"; (3) Delete characters before cursor;
     (4)Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback
   - **6MNO/PLAY**: (1) Enter numeral "6"; (2) Enter letters "MNO";
     (3) Playback, for direct access to playback interface
   - **7PQRS/REC**: (1) Enter numeral "7"; (2) Enter letters "PQRS"; (3) Manual record, for direct access to manual record interface; manually enable/disable record
   - **8TUV/PTZ**: (1) Enter numeral "8"; (2) Enter letters "TUV"; (3) Access PTZ control interface
   - **9WXYZ/PREV**: (1) Enter numeral "9"; (2) Enter letters "WXYZ"; (3) Multi-camera display in view.
   - **0/A**: (1) Enter numeral "0"; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input)
5. **SHIFT:** Switch of compound keys between the numeric/letter input and functional control.
6. **Control Buttons:**
   - **Directional buttons:** In menu mode, the *direction* buttons are used to navigate between different fields and items and select setting parameters. In playback mode, the *Up* and *Down* buttons are used to speed up and slow down record play, and the *Left* and *Right* buttons are used to select the recording 30s forwards or backwards. In live view mode, these buttons can be used to cycle through channels.
   - **Enter:** The *Enter* button is used to confirm selection in menu mode; or used to select checkbox fields and ON/OFF switch. In playback mode, it can be used to play or pause the video. In single-frame play mode, pressing the *Enter* button will advance the video by a single frame. And in auto sequence live view mode, the buttons can be used to pause / resume auto sequence.

DS-7216HVI-ST, DS-7216HVI-ST/SE:

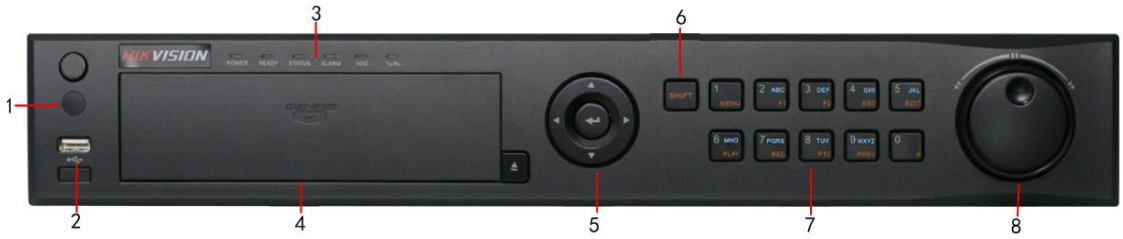

Figure 11. DS-7216HVI-ST, DS-7216HVI-ST/SE Front Panel

1. **IR Receiver:** Operation by IR remote control.
2. **USB Interface:** Connects USB mouse or USB flash memory devices.
3. **Status Indicators**:
   - **POWER**: the indicator lights in green when DVR is powered up.
   - **READY**: the indicator lights in green when the device is running normally.
   - **STATUS**: the indicator lights when the compound key switches to numeric/letter input mode.
   - **ALARM**: the indicator lights in red when there is sensor alarm occurring.
   - **HDD**: the indicator flickers in red when HDD is reading/writing.
   - **Tx/Rx**: TX/RX indictor flickers green when network connection is functioning normally.
4. **DVD-ROM:** Space for DVD-ROM.
5. **Control Buttons:**
   - **Directional buttons:** In menu mode, the *direction* buttons are used to navigate between different fields and items and select setting parameters. In playback mode, the *Up* and *Down* buttons are used to speed up and slow down record play, and the *Left* and *Right* buttons are used to select the recording 30s forwards or backwards. In live view mode, these buttons can be used to cycle through channels.
   - **Enter:** The *Enter* button is used to confirm selection in menu mode; or used to select checkbox fields and ON/OFF switch. In playback mode, it can be used to play or pause the video. In single-frame play mode, pressing the *Enter* button will advance the video by a single frame. And in auto sequence live view mode, the buttons can be used to pause / resume auto sequence.
6. **SHIFT:** Switch of compound keys between the numeric/letter input and functional control.
7. **Compound Buttons:**
   - **1 MENU**: (1) Enter numeral “1”; (2) Access the main menu interface
   - **2ABC/F1**: (1) Enter numeral “2”; (2) Enter letters “ABC”; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
   - **3DEF/F2**: (1) Enter numeral “3”; (2) Enter letters “DEF”; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
   - **4GHI/ESC**: (1) Enter numeral “4”; (2) Enter letters “GHI”
     (3) Exit and back to the previous menu
   - **5JKL/EDIT**: (1) Enter numeral “5”; (2) Enter letters “JKL”; (3) Delete characters before cursor;
     (4)Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback
   - **6MNO/PLAY**: (1) Enter numeral “6”; (2) Enter letters “MNO”;
     (3) Playback, for direct access to playback interface
   - **7PQRS/REC**: (1) Enter numeral “7”; (2) Enter letters “PQRS”; (3) Manual record, for direct access to manual record interface; manually enable/disable record
   - **8TUV/PTZ**: (1) Enter numeral “8”; (2) Enter letters “TUV”; (3) Access PTZ control interface.
   - **9WXYZ/PREV**: (1) Enter numeral “9”; (2) Enter letters “WXYZ”; (3) Multi-camera display in live view.
   - **0/A**: (1) Enter numeral “0”; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input)
8. **JOG SHUTTLE Control:** The JOG SHUTTLE control can be used to move the active selection in a menu. The inner ring will move the selection up and down; the outer ring will move it left and right. In the Playback mode, the inner ring is used to jump 30 seconds forward/backward in a video. The outer ring can be used to speed up/slow down the video. In live view mode, it can be used to cycle through different channels.

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DS-7200HVI-ST/SN, DS-7204HFI-ST/SN, DS-7208HFI-ST/SN:

Figure 12. DS-7200HVI-ST/SN, DS-7204HFI-ST/SN, DS-7208HFI-ST/SN Front Panel

1. **Status Indicators:**
   - **POWER**: the POWER indicator turns green when DVR is powered up.
   - **STATUS**: the indicator lights when the compound key switches to numeric/letter input mode.
   - **Tx/Rx**: TX/RX indictor flickers green when network connection is functioning normally.
2. **IR Receiver:** operation by IR remote control.
3. **USB Interface:** Connects USB mouse or USB flash memory devices.

DS-7216HFI-ST/SN:

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Figure 13. DS-7216HFI-ST/SN Front Panel

1. **Status Indicators:**
   - **POWER**: the POWER indicator turns green when DVR is powered up.
   - **STATUS**: the indicator lights when the compound key switches to numeric/letter input mode.
   - **Tx/Rx**: TX/RX indictor flickers green when network connection is functioning normally.
2. **IR Receiver:** operation by IR remote control.
3. **USB Interface:** Connects USB mouse or USB flash memory devices.

DS-7200HVI-ST/RW, DS-7200HFI-ST/RW:

Figure 14. DS-7200HVI-ST/RW, DS-7200HFI-ST/RW Front Panel

1. **USB Interface:** Connects USB mouse or USB flash memory devices.
2. **DVD-ROM:** Space for DVD-ROM.
3. **Status Indicators**:
   - **READY:** the indicator lights in green when the device is running normally.
   - **STATUS:** the indicator lights when the compound key switches to numeric/letter input mode.
   - **ALARM:** the indicator lights in red when there is sensor alarm occurring.
   - **RECORD:** the indicator lights in green when the unit is under recording.
   - **NETWORK:** the indictor flickers in green when network connection is functioning normally.
4. **Compound Buttons:**
   - **1 MENU:** (1) Enter numeral "1"; (2) Access the main menu interface.
   - **2ABC/F1:** (1) Enter numeral "2"; (2) Enter letters "ABC"; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
   - **3DEF/F2:** (1) Enter numeral "3"; (2) Enter letters "DEF"; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
   - **4GHI/ESC:** (1) Enter numeral "4"; (2) Enter letters "GHI"; (3) Exit and back to the previous menu.
   - **5JKL/EDIT:** (1) Enter numeral "5"; (2) Enter letters "JKL"; (3) Delete characters before cursor;
     (4)Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback.
   - **6MNO/PLAY:** (1) Enter numeral "6"; (2) Enter letters "MNO";
     (3) Playback, for direct access to playback interface
   - **7PQRS/REC:** (1) Enter numeral "7"; (2) Enter letters "PQRS"; (3) Manual record, for direct access to manual record interface; manually enable/disable record
   - **8TUV/PTZ:** (1) Enter numeral "8"; (2) Enter letters "TUV"; (3) Access PTZ control interface.
   - **9WXYZ/PREV:** (1) Enter numeral "9"; (2) Enter letters "WXYZ"; (3) Multi-camera display in live view.
   - **0/A:** (1) Enter numeral "0"; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input).
5. **SHIFT:** Switch of compound keys between the numeric/letter input and functional control.
6. **Control Buttons:**
   - **Directional buttons:** In menu mode, the *direction* buttons are used to navigate between different fields and items and select setting parameters. In playback mode, the *Up* and *Down* buttons are used to speed up and slow down record play, and the *Left* and *Right* buttons are used to select the recording 30s forwards or backwards. In live view mode, these buttons can be used to cycle through channels.
   - **Enter:** The *Enter* button is used to confirm selection in menu mode; or used to select checkbox fields and ON/OFF switch. In playback mode, it can be used to play or pause the video. In single-frame play mode, pressing the *Enter* button will advance the video by a single frame. And in auto sequence live view mode, the buttons can be used to pause / resume auto sequence.
7. **IR Receiver:** Operation by IR remote control.
8. **PWR:** the indicator lights in green when DVR is powered up.
9. **Power On/Off:** press and hold the button to turn off the device.

DS-7204HVI-ST/L:

Figure 15. DS-7204HVI-ST/L Front Panel

1. **LCD:** Display local menu and live view.
2. **USB Interface:** Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
3. **Status Indicators:** Status indicators for different features of the DVR.
   - **POWER:** Power indicator turns green when DVR is powered up.
   - **STATUS:** Status indicator turns green when DVR is controlled by an IR remote.
   - **HDD:** HDD indicator blinks red when data is being read from or written to HDD.
   - **Tx/Rx:** TX/RX indictor blinks blue when network connection is functioning properly.
4. **IR Receiver:** Operation by IR remote control.
5. **DIRECTION/ENTER Buttons:**
   - **DIRECTION Buttons:** The DIRECTION buttons are used to navigate between different fields and items in menus. In Playback mode, the Up and Down button is used to speed up and slow down recorded video. The Left and Right button will jump 30s backward and forward in a video. In live view mode, these buttons can be used to cycle through channels.
   - **ENTER Button:** The ENTER button is used to confirm selection in any of the menu modes. It can also be used to *tick* checkbox fields. In Playback mode, it can be used to play or pause the video. In Single Play mode, pressing the ENTER button will advance the video by a single frame.
6. **Control Buttons:**
   - **1 MENU:** (1) Enter numeral "1"; (2) Access the main menu interface.
   - **2ABC/F1:** (1) Enter numeral "2"; (2) Enter letters "ABC"; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
   - **3DEF/F2:** (1) Enter numeral "3"; (2) Enter letters "DEF"; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
   - **4GHI/ESC:** (1) Enter numeral "4"; (2) Enter letters "GHI"; (3) Exit and back to the previous menu.
   - **5JKL/EDIT:** (1) Enter numeral "5"; (2) Enter letters "JKL"; (3) Delete characters before cursor; (4)Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback.
   - **6MNO/PLAY:** (1) Enter numeral "6"; (2) Enter letters "MNO"; (3) Playback, for direct access to playback interface.
   - **7PQRS/REC:** (1) Enter numeral "7"; (2) Enter letters "PQRS"; (3) Manual record, for direct access to manual record interface; manually enable/disable record.
   - **8TUV/PTZ:** (1) Enter numeral "8"; (2) Enter letters "TUV"; (3) Access PTZ control interface.
   - **9WXYZ/PREV:** (1) Enter numeral "9"; (2) Enter letters "WXYZ"; (3) Multi-camera display in live view.
   - **0/A:** (1) Enter numeral "0"; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input).
7. **SHIFT:** Switch of compound keys between the numeric/letter input and functional control.

Note: It is important to note that you must click the EDIT button on either the remote or front panel on a text field before you are able to edit its content. After you're done entering text, you must hit the ENTER button to be able to move on to the next field.

Using IR Remote Control

Your DVR may also be controlled with the IR remote control, shown in Figure 16.
Batteries (2 ×AAA) must be installed before operation.

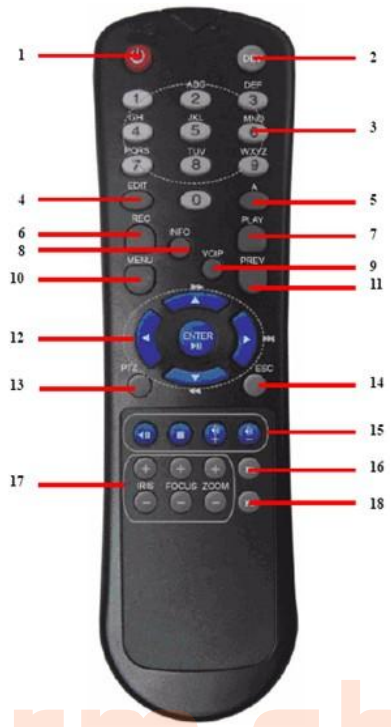

Figure 16. IR Remote Control

The keys on the remote control closely resemble the ones found on the front panel, including:

1. **POWER:** Turn on/off DVR.
2. **DEV:** Enable/Disable Remote Control.
3. **Alphanumeric:** Same as Alphanumeric buttons on front panel.
4. **EDIT:** Same as JKL/EDIT button on front panel.
5. **A:** Same as 0/A button on front panel.
6. **REC:** Same as 7PQRS/REC button on front panel.
7. **PLAY:** Same as 6MNO/PLAY button on front panel.
8. **INFO:** Reserved.
9. **VOIP:** Same as 2ABC/F1 button on front panel.
10. **MENU:** Same as 1/MENU button on front panel.
11. **PREV:** Same as 9WXYZ/PREV button on front panel.
12. **DIRECTION/ENTER Buttons:** Same as DIRECTION/ENTER buttons on front panel.
13. **PTZ:** Same as 8TUV/PTZ button on front panel.
14. **ESC:** Same as ESC button on front panel.
15. **RESERVED:** Reserved.
16. **F1:** Same as 2ABC button on front panel.
17. **PTZ CONTROL Buttons:** Buttons to adjust the iris, focus and zoom of a PTZ camera.
18. **F2 Button:** The F2 button is used to cycle through tab pages. It can also be used to enter the Channel&OSD Position settings.

Aim the remote control at the IR receiver located at the front of the unit to test operation. If there is no response:

1. Using the front control panel or the mouse, go into Menu > Settings > General > More Settings.
2. Check and remember DVR ID#. The default ID# is 255. This ID# is valid for all IR remote controls.
3. Press the DEV button on the remote.
4. Enter the DVR ID# from step 2.
5. Press the ENTER button on the remote control.

If the Status indicator on the front panel turns green, the remote control is operating properly. If the Status

indicator does not turn green and there is still no response from the remote, please check the following:

1. Batteries are installed correctly and the polarities of the batteries are not reversed.
2. Batteries are fresh and not out of charge.
3. IR receiver is not obstructed.
4. No fluorescent lamp is used nearby.

Using a USB Mouse

A regular 3-button (Left/Right/Scroll-wheel) USB mouse can also be used with this DVR. To use a USB mouse:

1. Plug USB mouse into one of the USB ports on the front panel of the DVR.
2. The mouse should automatically be detected. If in a rare case that the mouse is not detected, please refer to the recommended device list from your provider.

The buttons on the mouse corresponds to:

1. **Left Button:**
   - **Single-Click:** Select a component of a menu, such as a button or an input field. This is similar to pressing the ENTER button on the remote/front panel controls.
   - **Double-Click:** Switch between single screen and multi-screen mode in Live View/ Playback mode.
   - **Click and Drag:** Clicking and dragging the Left mouse button can be used to control the pan/tilt of a PTZ camera as well as to vary the position of digital zoom area and camera OSD. It can also be used to setup the alarm areas.
2. **Right Button:**
   - **Single-Click:** Shows pop-up menu.
3. **Scroll-Wheel:**
   - **Scroll Up:** In Live View mode, scrolling up will switch to the previous screen. In Menu mode, it will move the selection to the previous item.
   - **Scroll Down:** In Live View mode, scrolling down will switch to the next screen. In Menu mode, it will move the selection to the next item.

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Using the Soft Keyboard

When a mouse is used to perform task on the DVR, clicking on a text input field will bring up the Soft Keypad, shown in Figure 17.

Figure 17. Soft Keypad

The buttons on the soft keyboard represents:

Lowercase: Designates lowercase input is being used.

Uppercase: Designates uppercase input is being used.

Switch to Lowercase: Switch to lowercase input.

Switch to Uppercase: Switch to uppercase input.

Number: Designates number input is being used.

Symbols: Switch to symbols input.

Backspace: Delete the character in front of the cursor.

Enter: Confirm selection.

ESC: Exit out of Soft Keyboard.

Figure 18. Soft Keyboard Buttons

Rear Panel

DS-7204HVI-ST:

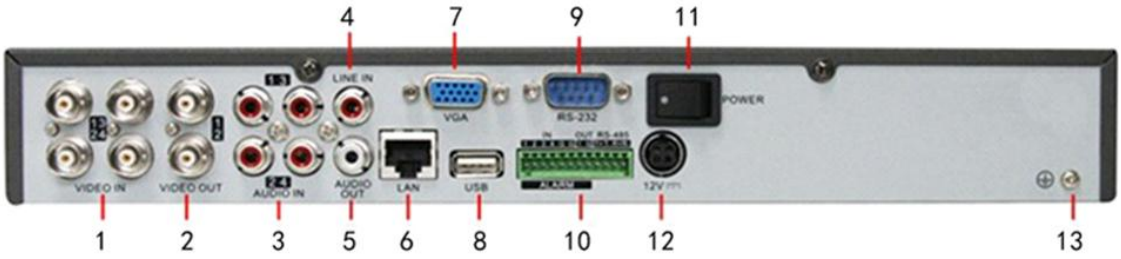

Figure 19. DS-7204HVI-ST Rear Panel

No.	Item	Description
1	VIDEO IN	BNC connectors for analog video input
2	VIDEO OUT	VIDEO OUT1 is main video out, and VIDEO OUT2 is spot video out
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	LAN	Connector for LAN (Local Area Network)
7	VGA	DB15 connector for VGA output. Display local video output and menu
8	USB	Connector for USB devices
9	RS-232 Interface	DB9 connector for RS-232 devices.
10	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	POWER	Switch for turn on/off the device
12	12V	12VDC power supply
13	GND	Ground(needs to be connected when DVR starts up)

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DS-7208HVI-ST, DS-7216HVI-ST:

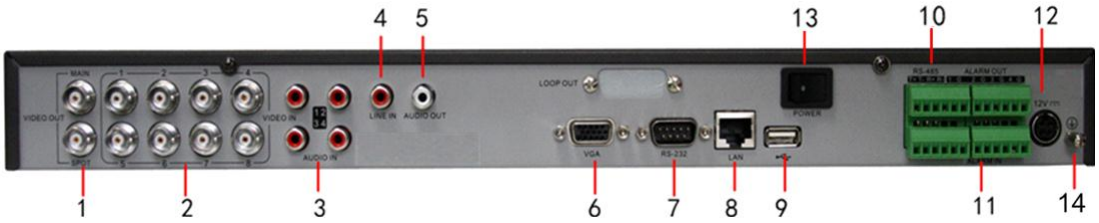

Figure 20. DS-7208HVI-ST Rear Panel

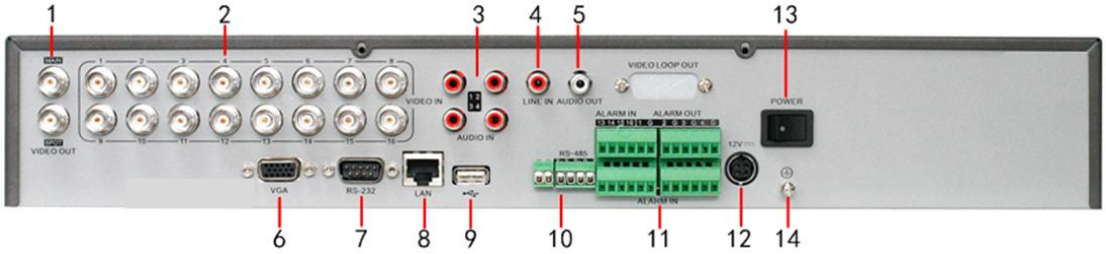

Figure 21. DS-7216HVI-ST Rear Panel

No.	Item	Description
1	MAIN VIDEO OUT	BNC connectors for main video out
	SPOT VIDEO OUT	BNC connectors for spot video out
2	VIDEO IN	BNC connectors for analog video input
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	RS-232 Interface	DB9 connector for RS-232 devices.
8	LAN	Connector for LAN (Local Area Network)
9	USB	Connector for USB devices
10	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
12	12V	12VDC power supply
13	POWER	Switch for turn on/off the device
14	GND	Ground(needs to be connected when DVR starts up)

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DS-7204HVI-ST/SE, DS-7208HVI-ST/SE, DS-7216HVI-ST/SE:

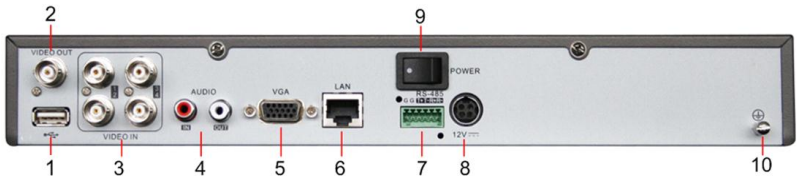

Figure 22. DS-7204HVI-ST/SE Rear Panel

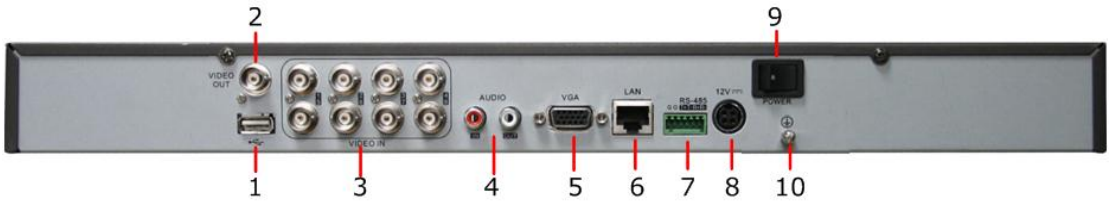

Figure 23. DS-7208HVI-ST/SE Rear Panel

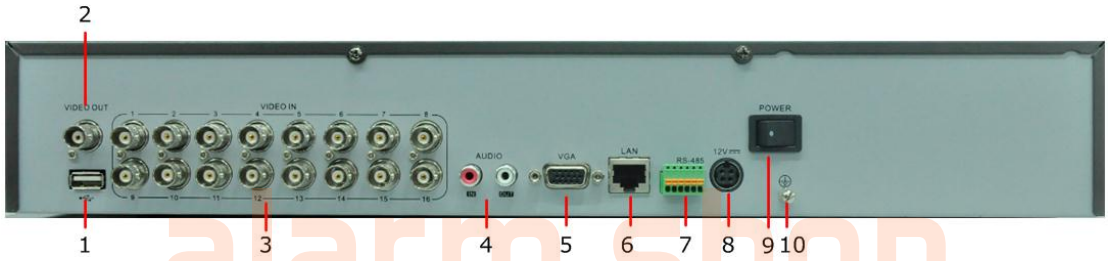

Figure 24. DS-7216HVI-ST/SE Rear Panel

No.	Item	Description
1	USB	Connector for USB devices
2	VIDEO OUT	BNC connectors for video output
3	VIDEO IN	BNC connectors for analog video input
4	AUDIO IN	RCA connectors for analog audio input
	AUDIO OUT	RCA connector for audio output
5	VGA	DB15 connector for VGA output. Display local video output and menu
6	LAN	Connector for LAN (Local Area Network)
7	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
8	12V	12VDC power supply
9	POWER	Switch for turn on/off the device
10	GND	Ground(needs to be connected when DVR starts up)

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DS-7204HVI-ST/SN, DS-7208HVI-ST/SN, DS-7216HVI-ST/SN:

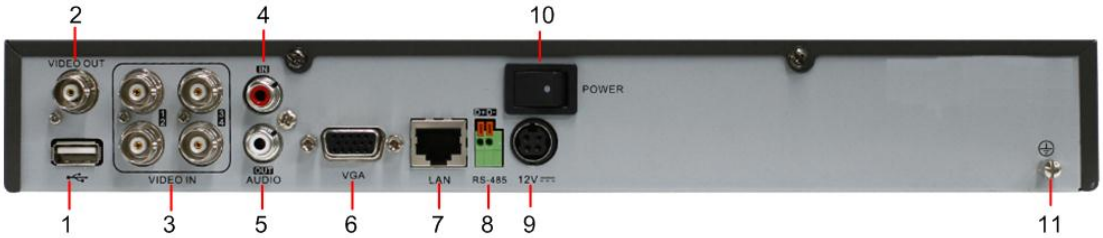

Figure 25. DS-7204HVI-ST/SN Rear Panel

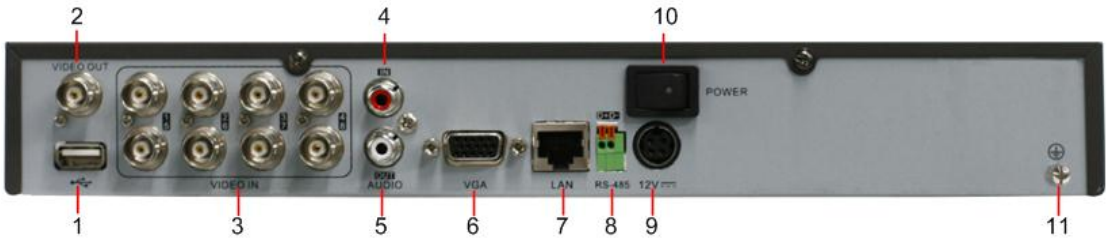

Figure 26. DS-7208HVI-ST/SN Rear Panel

Figure 27. DS-7216HVI-ST/SN Rear Panel

No.	Item	Description
1	USB	Connector for USB devices
2	VIDEO OUT	BNC connectors for video output
3	VIDEO IN	BNC connectors for analog video input
4	AUDIO IN	RCA connectors for analog audio input
5	AUDIO OUT	RCA connector for audio output
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	LAN	Connector for LAN (Local Area Network)
8	RS-485 Interface	Connector for RS-485 devices. D+, D- pin connects to PTZ
9	12V	12VDC power supply
10	POWER	Switch for turn on/off the device
11	GND	Ground(needs to be connected when DVR starts up)

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DS-7204HVI-ST/RW:

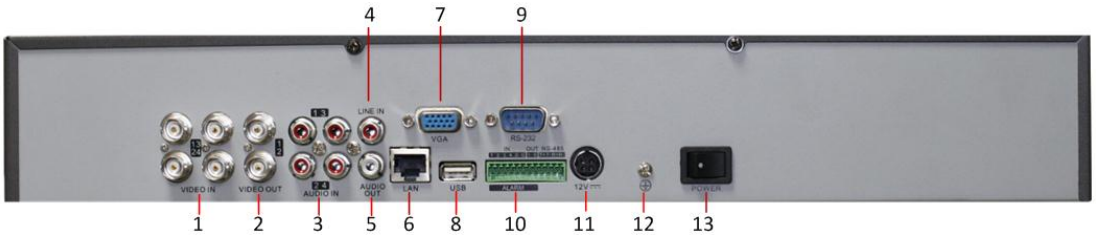

Figure 28. DS-7204HVI-ST/RW Rear Panel

No.	Item	Description
1	VIDEO IN	BNC connectors for analog video input
2	VIDEO OUT	VIDEO OUT1 is main video out, and VIDEO OUT2 is spot video out
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	LAN	Connector for LAN (Local Area Network)
7	VGA	DB15 connector for VGA output. Display local video output and menu
8	USB	Connector for USB devices
9	RS-232 Interface	DB9 connector for RS-232 devices
10	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	12V	12VDC power supply
12	GND	Ground (needs to be connected when DVR starts up)
13	POWER	Switch for turn on/off the device

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DS-7208HVI-ST/RW, DS-7216HVI-ST/RW:

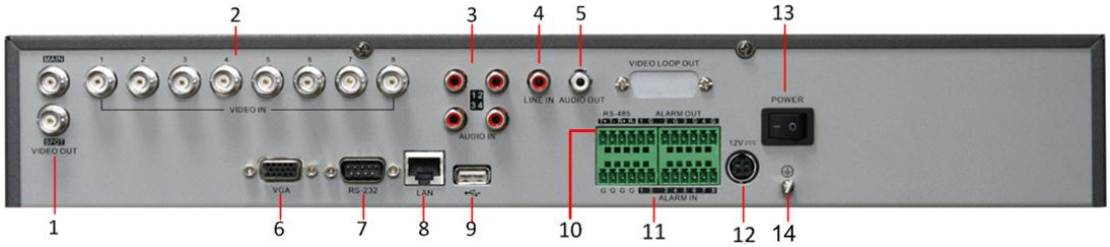

Figure 29. DS-7208HVI-ST/RW Rear Panel

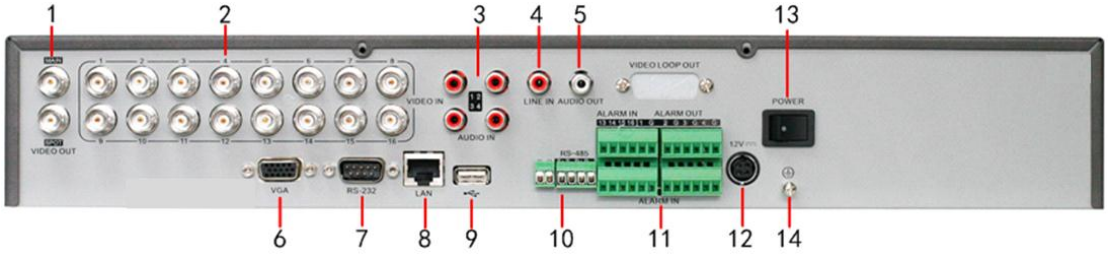

Figure 30. DS-7216HVI-ST/RW Rear Panel

No.	Item	Description
1	MAIN VIDEO OUT	BNC connectors for main video out
	SPOT VIDEO OUT	BNC connectors for spot video out
2	VIDEO IN	BNC connectors for analog video input
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	RS-232 Interface	DB9 connector for RS-232 devices
8	LAN	Connector for LAN (Local Area Network)
9	USB	Connector for USB devices
10	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
12	12V	12VDC power supply
13	POWER	Switch for turn on/off the device
14	GND	Ground(needs to be connected when DVR starts up)

DS-7204HFI-ST:

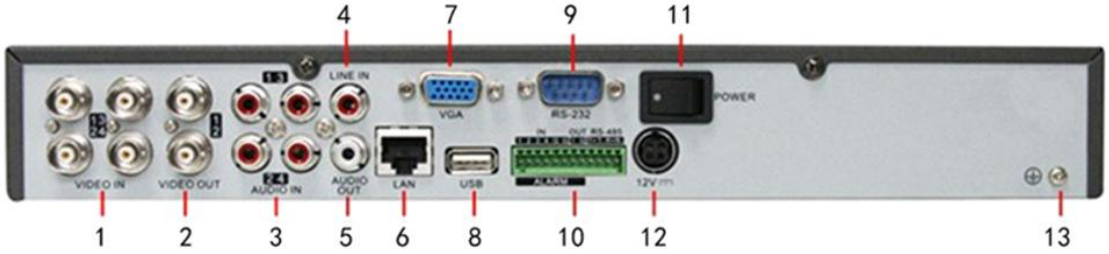

Figure 31. DS-7204HFI-ST Rear Panel

No.	Item	Description
1	VIDEO IN	BNC connectors for analog video input
2	VIDEO OUT	BNC connector for video output.
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	LAN	Connector for LAN (Local Area Network)
7	VGA	DB15 connector for VGA output. Display local video output and menu
8	USB	Connector for USB devices
9	RS-232 Interface	DB9 connector for RS232 devices
10	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	POWER	Switch for turn on/off the device
12	12V	12VDC power supply
13	GND	Ground(needs to be connected when DVR starts up)

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DS-7208HFI-ST, DS-7216HFI-ST:

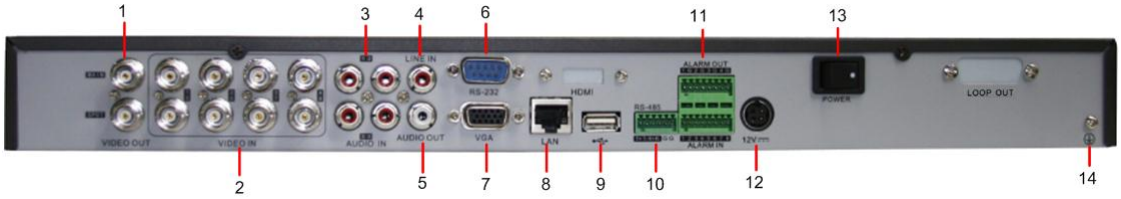

Figure 32. DS-7208HFI-ST Rear Panel

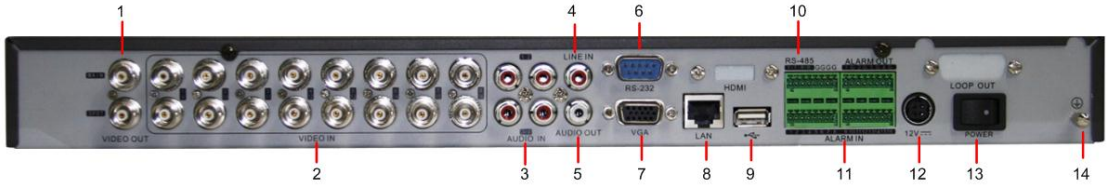

Figure 33. DS-7216HFI-ST Rear Panel

No.	Item	Description
1	MAIN VIDEO OUT	BNC connectors for main video out
	SPOT VIDEO OUT	BNC connectors for spot video out
2	VIDEO IN	BNC connectors for analog video input
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	RS-232 Interface	DB9 connector for RS-232 devices
7	VGA	DB15 connector for VGA output. Display local video output and menu
8	LAN	Connector for LAN (Local Area Network)
9	USB	Connector for USB devices
10	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
12	12V	12VDC power supply
13	POWER	Switch for turn on/off the device
14	GND	Ground(needs to be connected when DVR starts up)

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DS-7204HFI-ST/SE, DS-7208HFI-ST/SE, DS-7216HFI-ST/SE:

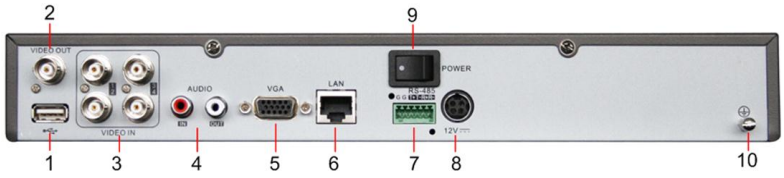

Figure 34. DS-7204HFI-ST/SE Rear Panel

Figure 35. DS-7208HFI-ST/SE Rear Panel

Figure 36. DS-7216HFI-ST/SE Rear Panel

No.	Item	Description
1	USB	Connector for USB devices
2	VIDEO OUT	BNC connectors for video output
3	VIDEO IN	BNC connectors for analog video input
4	AUDIO IN	RCA connectors for analog audio input
	AUDIO OUT	RCA connector for audio output
5	VGA	DB15 connector for VGA output. Display local video output and menu
6	LAN	Connector for LAN (Local Area Network)
7	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
8	12V	12VDC power supply
9	POWER	Switch for turn on/off the device
10	GND	Ground(needs to be connected when DVR starts up)

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DS-7204HFI-ST/SN, DS-7208HFI-ST/SN, DS-7216HFI-ST/SN:

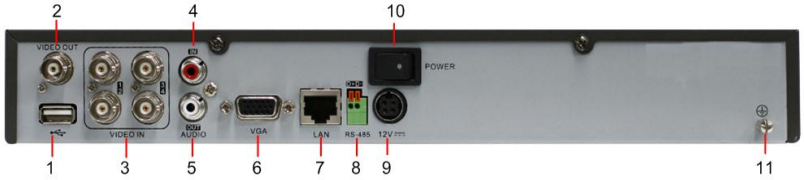

Figure 37. DS-7204HFI-ST/SN Rear Panel

Figure 38. DS-7208HFI-ST/SN Rear Panel

Figure 39. DS-7216HFI-ST/SN Rear Panel

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No.	Item	Description
1	USB	Connector for USB devices
2	VIDEO OUT	BNC connectors for video output
3	VIDEO IN	BNC connectors for analog video input
4	AUDIO IN	RCA connectors for analog audio input
5	AUDIO OUT	RCA connector for audio output
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	LAN	Connector for LAN (Local Area Network)
8	RS-485 Interface	Connector for RS-485 devices. D+, D- pin connects to PTZ
9	12V	12VDC power supply
10	POWER	Switch for turn on/off the device
11	GND	Ground(needs to be connected when DVR starts up)

DS-7204HFI-ST/RW:

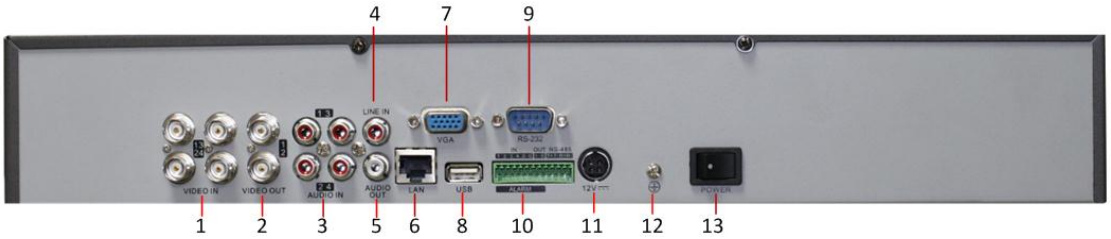

Figure 40. DS-7204HFI-ST/RW Rear Panel

No.	Item	Description
1	VIDEO IN	BNC connectors for analog video input
2	VIDEO OUT	VIDEO OUT1 is main video out, and VIDEO OUT2 is spot video out
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	LAN	Connector for LAN (Local Area Network)
7	VGA	DB15 connector for VGA output. Display local video output and menu
8	USB	Connector for USB devices
9	RS-232 Interface	DB9 connector for RS-232 devices
10	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	12V	12VDC power supply
12	GND	Ground(needs to be connected when DVR starts up)
13	POWER	Switch for turn on/off the device

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DS-7208HFI-ST/RW, DS-7216HFI-ST/RW:

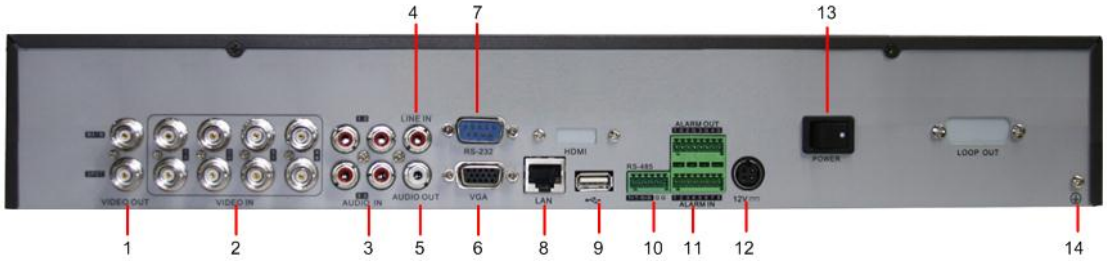

Figure 41. DS-7208HFI-ST/RW Rear Panel

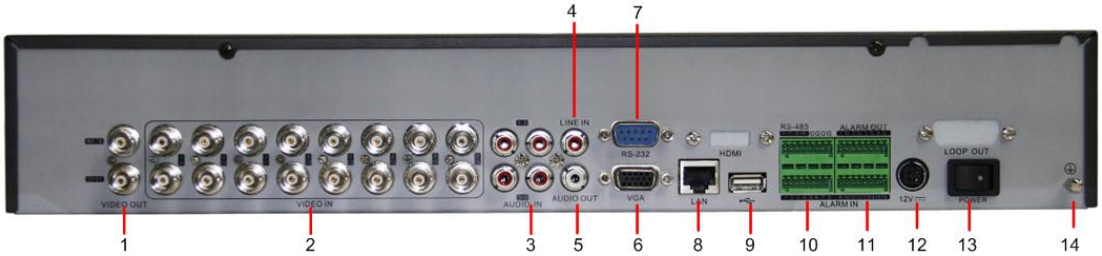

Figure 42. DS-7216HFI-ST/RW Rear Panel

No.	Item	Description
1	MAIN VIDEO OUT	BNC connectors for main video out
	SPOT VIDEO OUT	BNC connectors for spot video out
2	VIDEO IN	BNC connectors for analog video input
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	RS-232 Interface	DB9 connector for RS-232 devices.
8	LAN	Connector for LAN (Local Area Network)
9	USB	Connector for USB devices
10	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
12	12V	12VDC power supply
13	POWER	Switch for turn on/off the device
14	GND	Ground(needs to be connected when DVR starts up)

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DS-7204HVI-ST/L:

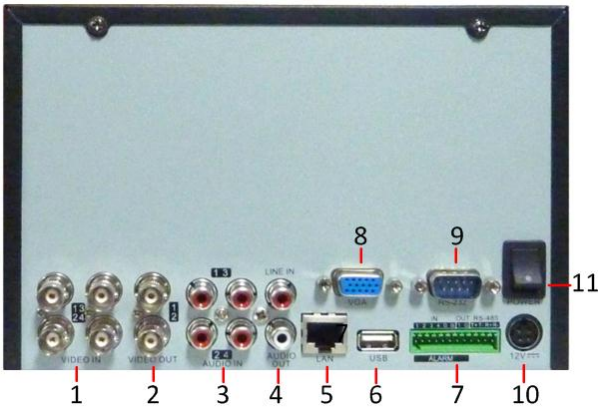

Figure 43. DS-7204HVI-ST/L Rear Panel

No.	Item	Description
1	VIDEO IN	BNC connectors for analog video input
2	VIDEO OUT	VIDEO OUT1 is main video out, and VIDEO OUT2 is spot video out
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
	AUDIO OUT	RCA connector for audio output
5	LAN	Connector for LAN (Local Area Network)
6	USB	Connector for USB devices
7	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
8	VGA	DB15 connector for VGA output. Display local video output and menu
9	RS-232 Interface	DB9 connector for RS-232 devices
10	12V	12VDC power supply
11	POWER	Switch for turn on/off the device

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C H A P T E R 2

Getting Started

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Starting and Shutting Down Your DVR

Proper startup and shutdown procedures are crucial to expand the life of your DVR.

To start your DVR:

1. Please make sure the input voltage meets the requirements of DVR, and the GND is in grounding.
2. Please make sure the VGA port on its rear panel has connected with a display device or the VIDEO OUT port has connected to a monitor, or else no prompt message will be displayed on screen after device startup and the menu operation is inaccessible as well.
3. In case the POWER indicator on the front panel does not light, please apply power to the device to start it.

After the power has been started up, the POWER indicator will light green, and the startup window will appear:

To shut down the DVR:

1. Enter the **Shut Down** menu, shown in Figure 1 by clicking on Menu > ShutDown.

Figure 1. Shutdown Menu

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2. Select the *ShutDown* button.
3. Click the *Yes* button in the pop-up attention box to confirm the shutdown.
4. For the DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models, you are allowed to power off the unit only when the following interface appears:

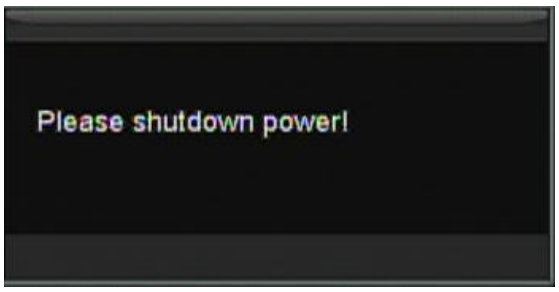

Figure 2. Shutdown

Rebooting and Locking Your DVR

While in the Shutdown menu (Figure 1), you may also reboot or lock your DVR. Locking your DVR will return you to the Live View mode, which will require a user name and password to exit out of it. The Reboot button will reboot your DVR.

To reboot or lock your DVR:

1. Enter the Shutdown menu by clicking Menu > ShutDown.
2. Select the Lock button to lock the DVR or the Reboot button to reboot the DVR.

Using the Setup Wizard

Note: Please make the DVR has been installed with HDD before access to the Setup Wizard.
By default, the Setup Wizard will start once the DVR has loaded, as shown in Figure 3. The Setup Wizard will guide you through some important settings of your DVR. Select *Next* if the DVR has been installed with HDD, or click *Cancel* to access Live View window if no HDD is installed.

Note: If the checkbox is changed to ☐, then the Setup Wizard dialog box will not appear next time until the factory default settings are resumed; and if you select the checkbox as ☑, the device will automatically access the Setup Wizard dialog box when it starts up next time.

Figure 3. Setup Wizard

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To start using the Setup Wizard:

1. Click the *Next* button on the Wizard window. This will take you to the **User Permission** window, shown in Figure 4.

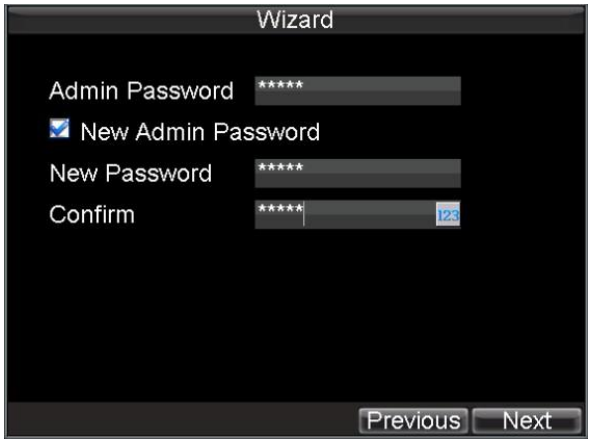

Figure 4. User Permission

2. Navigate to the Admin Password text box.
3. Type the admin password into the Admin Password text box. By default, the password is 12345.
4. To change the admin password, check the New Admin Password checkbox. Type new password and confirm it in the given text boxes.
5. Click *Next* button to enter the HDD Management dialog box, shown in Figure 5.

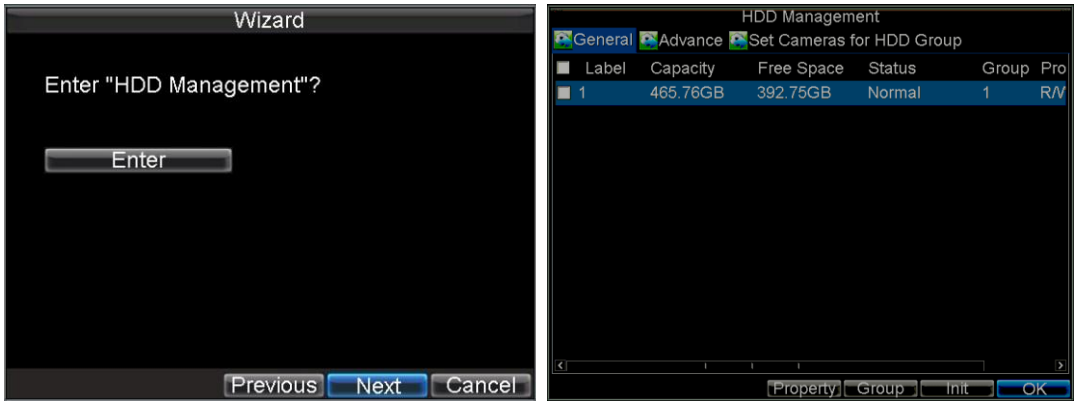

Figure 5. HDD Management

6. To access HDD management interface, click the *Enter* button.
7. If a new HDD has been recently installed, select the HDD from the list to initialize it. Initializing the HDD will format and remove all data from it.
8. After the HDD has been initialized, click the *OK* button which will take you back to the **Setup Wizard** window.
9. Click *Next* button to enter the **Record Settings** dialogue box, as shown in Figure 6.

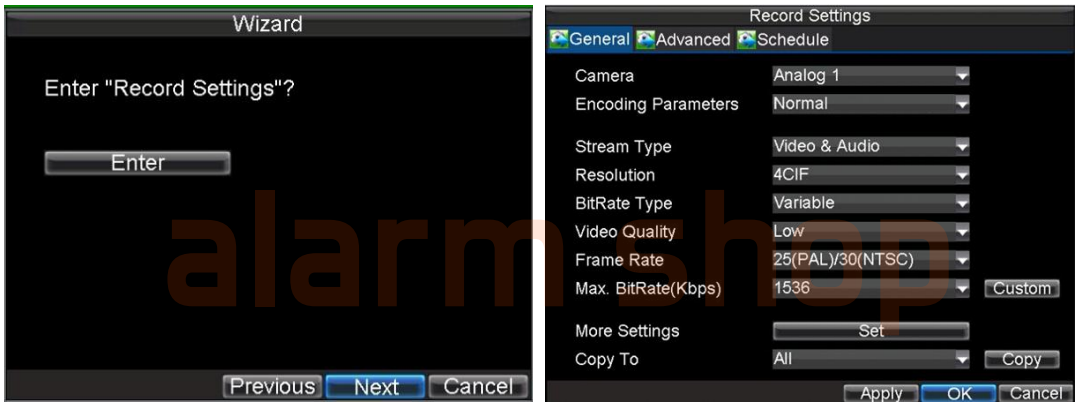

Figure 6. Record Settings

10. Click the *Enter* button to enter **Record Settings** interface.
11. Select the **Schedule** tab, shown in Figure 7.

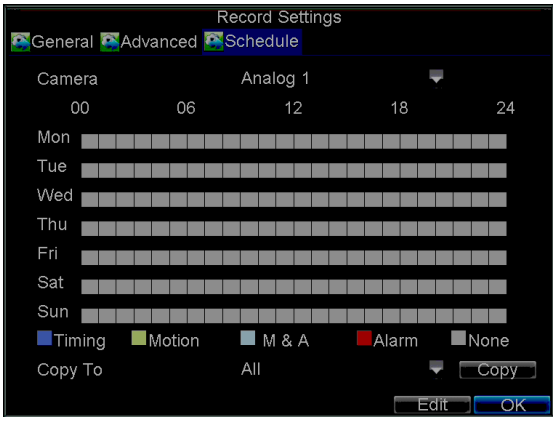

Figure 7. Schedule Settings

12. Click *Edit* button to enter a new recording schedule, shown in Figure 8.
13. Check both the *Enable Schedule* and *All Day* checkbox. This will enable the recording schedule

and make it record continuously all day.

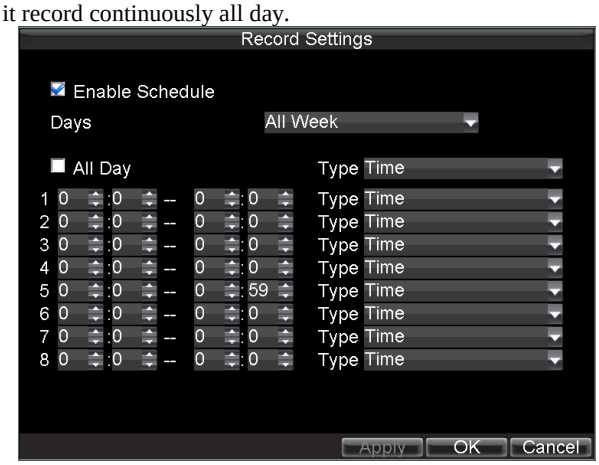

Figure 8. Edit Schedule Settings

14. Click the *OK* button. This will take you back to the **Schedule** tab. To copy the schedule to a different channel, select the channel or all under **Copy To** and click the *Copy* button.
15. Click *Next* button to access the **Network Settings** dialog box, shown in Figure 9.

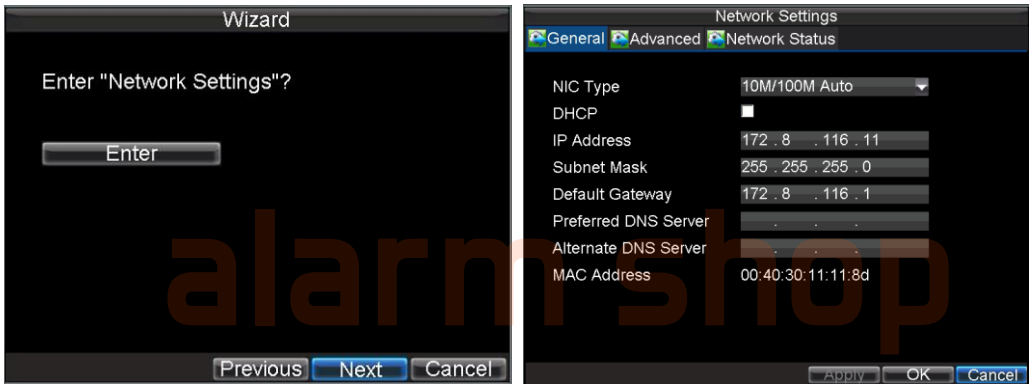

Figure 9. Network Settings

16. To configure network settings, click the *Enter* button.
17. Enter the **IP Address**, **Subnet Mask** and **Default Gateway** settings.
18. Click *OK* button to return to the Setup Wizard.
19. If all the settings have been entered, click *Done* to finish the Setup Wizard.
20. If you have not initialized or formatted the HDD, the following prompt will pop up to remind you to initialize the HDD.
    You can click the **Enter** button to enter the HDD Management interface and select the HDD for initialization, or you can click **Cancel** to exit the Setup Wizard.

Figure 10. Confirm HDD Initialization

Setting Date & Time

It is extremely important to setup the system date and time to accurately timestamp recordings and events.

To setup date and time:

1. Open the **Menu** window by clicking the *MENU* button on the remote or front panel. You can also go to the Menu window by right clicking with the mouse and clicking the Menu button.
2. Click the *Settings* icon.
3. Click the *General* icon. You will be taken to the **General Settings** window, as shown in Figure 11.

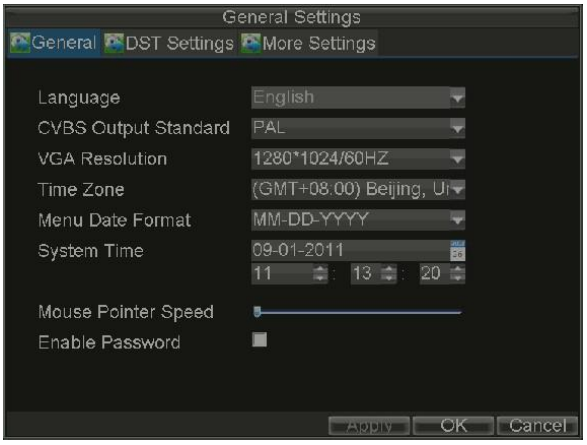

Figure 11. General Settings

4. Enter the correct date and time in **System Time**.
5. Click the *Apply* button to save the setting.

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C H A P T E R 3

Live View

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On-screen Display in Live View

The Live View mode is automatically started after the DVR boots up. It is also at the very top of the menu hierarchy, thus hitting the ESC multiple times (depending on which menu you're on) will bring you to the Live View mode.

Live View Icons

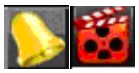
Some icons are provided on screen in Live View mode to indicate different camera status. These icons include:

Main Output

Aux Output

Event Alarm: Indicates video loss, video tampering, motion detection or relay alarm.

Record: Indicates the current channel is recording. The recording may have been started manually, from a schedule, and/or triggered from motion or alarm.



Event Alarm & Record

Figure 1. Live View Icons

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Note: Status for video loss alarm is only valid with analog cameras.

Live View Operation

In Live View mode, you can operate the following functions:

1. **Display Single Camera:**
   - **By Front Panel/Remote:** Use Alphanumeric buttons.
   - **By Mouse:** Select *Single Camera* in right-click menu.
2. **Multi-camera Live View:**
   - **By Front Panel/Remote:** Press *PREV* button.
   - **By Mouse:** Select *Multi Camera* in right-click menu.
3. **Manual Switch:**
   - **By Front Panel/ Remote:** Press the *Left* arrow button to access the previous screen; press the *Right* arrow button to access next screen.
   - **By Mouse:** Select *Next Screen* in right-click menu.
4. **Auto Sequence:**
   - **By Front Panel/Remote:** Press *Enter* button.
   - **By Mouse:** Select *Start Auto-switch* in right-click menu.
5. **Digital Zoom:**
   - **By Mouse:** Select Digital Zoom in right-click menu.

Mouse Operation in Live View

Some functions of the Live View can be quickly accessed by clicking the right-button of the mouse (shown in Figure 2). These functions include:

- **Main Monitor:** Select the single-camera or multi-camera display mode for the main video output.
  Single Camera: Switch to a full-screen display of the selected camera.
  Multi Camera: Switch to multi-screen display mode (2×2 or 3×3).
- **Aux Monitor:** Select the single-camera or multi-camera display mode for the Aux video output.
  Single Camera: Switch to a full-screen display of the selected camera by drop-down submenu.
  Multi Camera: Switch between different multi-camera display modes by drop-down submenu.
- **Next Screen:** When displaying less than the maximum number of cameras in Live View, select this option to switch to the next camera display.
- **Start Auto-switch:** Enable multi-camera sequence in Live View mode.
- **Manual Record:** Enter Manual Record menu to enable camera (s) to start recording.
- **Playback:** Enter Playback mode of the selected camera.
- **Video Search:** Search the video files
- **PTZ:** Enter PTZ Control mode of the selected camera.
- **Digital Zoom:** Enter Digital Zoom interface of the selected camera.
- **Menu:** Enter the main menu.

Note: The *dwell time* of the live view configuration should be set before using **Start Auto-switch** function.

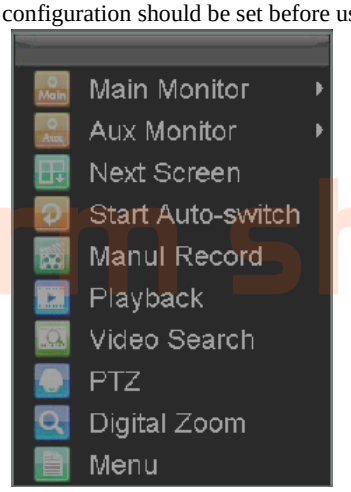

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Figure 2. Live View Mouse Menu

Digital Zoom

To use digital Zoom in Live View mode:

1. Right-click the mouse in Live View mode.
2. Select *Digital Zoom* from drop-down submenu.
3. Left-click and drag the red box to the desired area for zooming. The zoomed image will be magnified by 16 times. An example is given in the following figure:

Figure 3. Digital Zoom

Configuring Live View Display

Click Menu >Settings >Display to access the Live View display settings:

Figure 4. Display Settings

Configure the following settings for Live View Display:

- **Video Output:** Select the video output mode to VGA or Main CVBS.
- **Mode:** Set the live view display mode to be 1×1, 2×2, 3×3, or 4×4.
- **Dwell Time:** Set the dwell time for camera switching when **Start Auto-switch** is selected in Live View.
- **Camera Order:** Set the camera order for display in the selected mode (See ***Setting Camera Order***).
- **Enable Audio Output:** Enable/disable audio output for the selected video output.
- **Event Output:** Select the port for event output to VGA or Main CVBS.
- **Event Dwell Time:** Set the dwell time for event video display.

Notes:

1. You can select the Main Monitor or Aux Monitor from the right-click menu in live view mode.
2. DS-7200-ST will automatically detect whether this is VGA display connected or not.
3. When a VGA display is connected to DVR, the VGA will be used as the main video output, and all menu operations are accessible by mouse, front panel or IR remote; the VIDEO OUT1 will be used as the spot video output which only allows user to access the live view of the camera according to the configured CVBS

video parameters; and the VIDEO OUT2 will be used as the auxiliary video output, which allows user to access the single-camera live view of the camera as well as press the *3DEF/F2* button on the front panel to switch the camera display.

4. When there is no VGA display connected to DVR, the VIDEO OUT1 will be used as the main video output, and menu operations are accessible; the VGA will be used as the spot video output which only allows user to access the live view of the camera according to the configured VGA video parameters; and the VIDEO OUT2 is used as the auxiliary video output which allows user to access the single-camera live view of the camera as well as press the *3DEF/F2* button on the front panel to switch the camera display.
5. The connection or disconnection of VGA display in the process of device running will not affect its functions as shown above.

Setting Camera Order

The Camera Order settings allow you to set camera sequence in selectable live view display mode. See the following figure:

Figure 5. Camera Order Settings

Operate the following steps to set camera order:

1. Enter the Display Settings menu (Menu > Settings > Display) and click Set in the Camera Order item.
2. Select the video output port and the display mode (1×1, 2×2, 3×3 and 4×4 modes selectable).
3. Use the direction buttons on front panel to move to the display pane for setting press the Enter button to confirm the selection.
4. Use the direction buttons on front panel to select the camera you want to be view in the display pane. The option '×' indicates no display of camera.
5. Press *Enter* button to confirm the selection.

Channel Zero Encoding

Sometimes you need to get a remote view of many channels in real time from web browser or CMS (Client Management System) software, in order to decrease the bandwidth requirement without affecting the image quality, channel-zero encoding is supported as an option for you.

Configure the Channel Zero Encoding:

1. Click Menu> Configuration> Live View to enter the **Live View** Settings interface.
2. Select the **Channel Zero Encoding** tab.

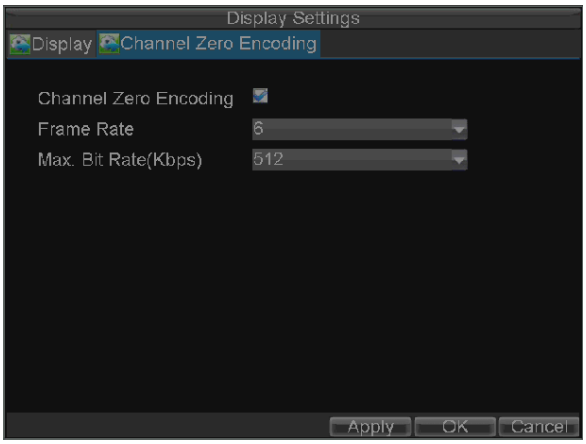

Figure 6. Channel Zero Encoding

3. Check the checkbox after **Enable Channel Zero Encoding**.
4. Configure the Frame Rate and Max. Bitrate.

The video source of channel zero is from video Main CVBS output, and you are allowed to configure the video divisions, camera order and dwell time for channel zero.

Notes:

1. The channel zero encoding can be enabled only when the VGA output resolution is set to 1024 × 768.
2. The channel zero does not support sub stream, and only the main stream is available.

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C H A P T E R 4

Record Settings

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Configuring Record Settings

There are multiple ways to setup your DVR for recording. They include setting up a recording schedule, triggering a recording by motion detection and/or a sensor alarm, and manually starting the recording.

Note: DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models provide no alarm, motion | alarm and motion & alarm recording types.

Before Record Settings

Before configuration, please make sure your DVR has been installed with HDD and has completed its initialization, otherwise, access Menu > HDD Management to install the HDD and perform initialization first.

Note: Please refer to *Initializing HDD* for specific instructions for initializing HDD.

Initializing Record Settings

1. Click Menu > Settings > Record to access the Record Settings dialog box, shown in Figure 1.

Figure 1. General Record Settings

2. Select the camera you want to configure.
3. Configure the following settings:
   - **Encoding Parameters:** Set the encoding parameters to be Normal or Event.
   - **Stream Type:** Set the stream type to be Video or Video & Audio.
   - **Resolution:** Set recording at resolution of 4CIF, 2CIF, CIF or QCIF selectable.
   - **Bit Rate Type:** Set the bit rate type to be Variable or Constant.
   - **Video Quality:** Set the video quality of recording, with 6 levels configurable.
   - **Frame Rate:** Set the frame rate of recording.
   - **Max Bit Rate:** Select or customize the maximum bit rate for recording.
4. Click the *Set* button under More Settings to configure more recording settings, as shown in Figure 2.

Figure 2. More Record Settings

- **Pre-Record:** Set the time in seconds to pre-record before the actual recording begins.
- **Post-Record:** Set the time in seconds to post-record after the actual recording has ended.
- **Recording Expired Time:** Set the expiration time in days for recorded video. Record files after expiration time will be deleted. If it is set to '0,' record files will not be option would be deleted. The actual period for record files storage is determined by the available HDD space.
- **Redundantly Record:** Enabling redundant record means you can save the recorded video files in the redundant HDD. You should set a HDD to *Redundancy* property to realize redundant recording.
- **Record Audio:** Enable or disable audio record of the selected camera.

Click *OK* to finish settings and return to the previous menu.

5. Press the *3DEF/F2* button on DVR front panel to select the *Advanced* tab to access the Advanced Settings submenu, shown in Figure 3.
6. Enable or disable the Overwrite setting. Enabling the Overwrite setting will cause recorded files to be overwritten once the HDD is full.
7. Click *Apply* and then *OK* to back to the previous menu.

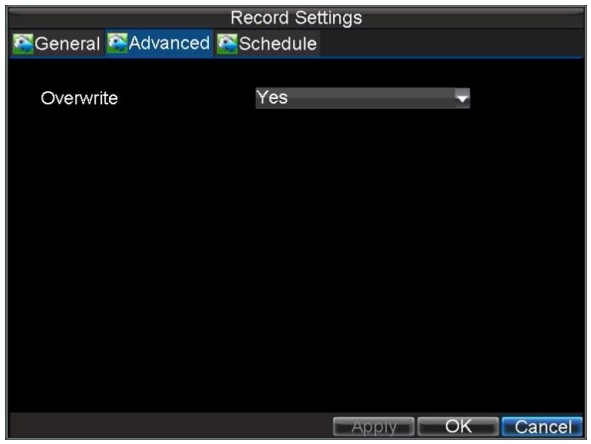

Figure 3. Advanced Record Settings

Scheduling Recording

The *Schedule* allows you to set up flexible recording schedules for daily or weekly recording.
To set up a recording schedule:

1. Click Menu > Settings > Record to enter the Record Settings menu.
2. Select the **Schedule** tab to enter the Schedule dialog box, shown in Figure 4.

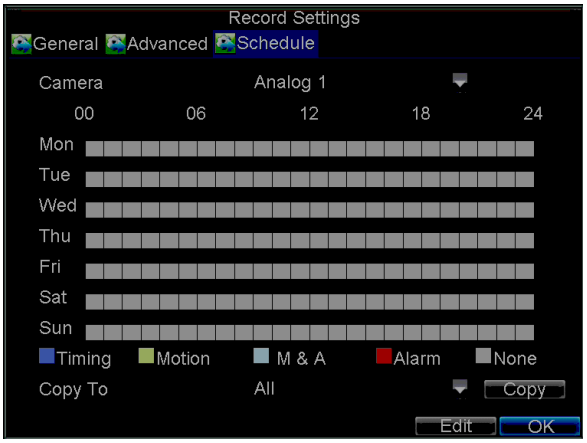

Figure4. Scheduling a Recording

3. Select Camera you want to configure recording schedule.
4. Click the *Edit* button to enter the **Schedule Settings** dialog box.
5. Click and check **Enable Schedule** checkbox.
6. Select the day you want to set up the schedule or select **All Week** to record for entire week.
7. Click **All Day** to enable recording for entire day, or select different periods for each day. Up to 8 time periods can be scheduled.

   Note: The time periods scheduled cannot be overlapped with each other.
8. Select recording **Type**. Recording type can be selected to scheduled or triggered by motion detection and/or alarm. For more specific settings about motion detection and alarm recordings, please refer to the ***Configuring Alarms***.
9. Click the *OK* button to finish configuration.
10. Repeat Steps 3-9 for other cameras or copy settings from one schedule to the others under the **Copy To** item.
11. Click *OK* to finish configuration and save the schedule settings.

Note: DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models provide no **Alarm** and **M&A** recording types on the interface.

Note: The **Event** encoding parameters will take effect when motion detection or alarm happens, and the **Timing** encoding parameters will take effect when there are no events happening.

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Starting a Manual Recording

A manual recording can be enabled at any time by means of the following configuration:

1. Click Menu > Manual Record to enter the **Manual Record** dialog box, shown in Figure 5.

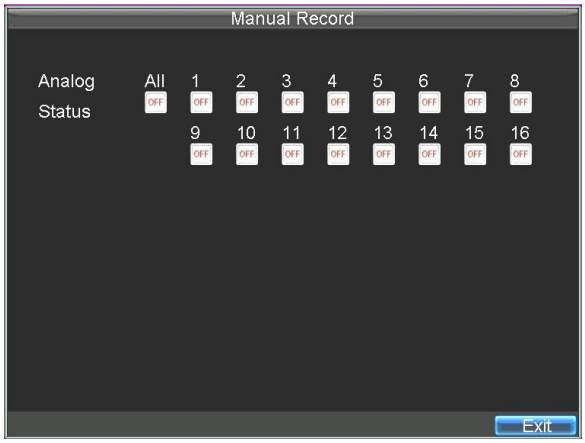

Figure 5. Manual Record Menu

2. Start manual recording by selecting *ON* or *OFF* for each camera.

Protecting Recorded Files

Two methods are provided to prevent recorded files from being deleted from the HDD or overwritten during cycle recording: set the recorded files to be *locked* or set the HDD that the files reside on to be *read-only*.

Locking/Unlocking Recorded Files

To lock or unlock a recorded file:

1. Click Menu > Video Search to enter the Video Search dialog box, shown in Figure 6.

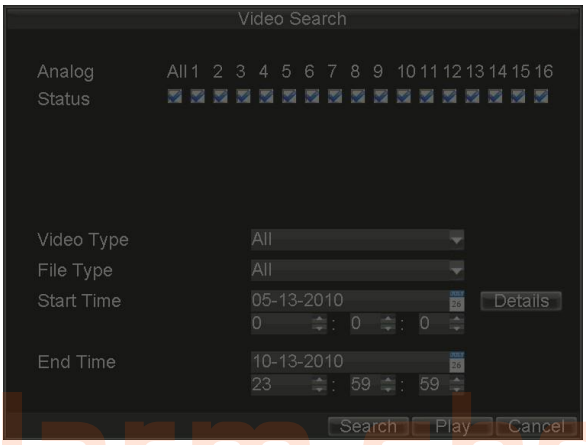

Figure 6. Video Search Menu

2. Search for desired recording by entering search parameters. Search parameters include Camera ID, Video/File Type, and Start/End Time.
3. Click the *Search* button. A list of record files (see Figure 7) matching the search parameters will be displayed.

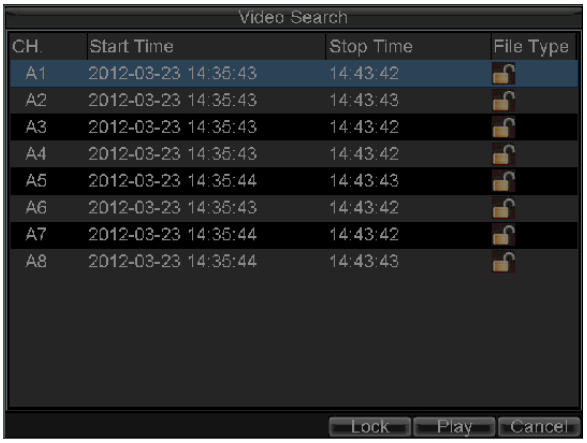

Figure 7. Video Search Result List

4. Select the file you want to lock/unlock.
5. Click **Lock** to lock file. If the file is already locked, click the Unlock button to unlock file. Locked files will be shown with a closed lock while unlocked files, opened lock.
6. Click *Cancel* to exit the Video Search menu.

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Setting HDD to Read-Only

To set a HDD to read-only:

1. Click Menu > HDD to access the HDD Management dialog box, shown in Figure 8.

Figure 8. HDD Management Menu

2. Select the **General** tab.
3. Select the HDD to set to read-only.
4. Click the *Property* button to enter the Property Settings dialog box, shown in Figure 9.

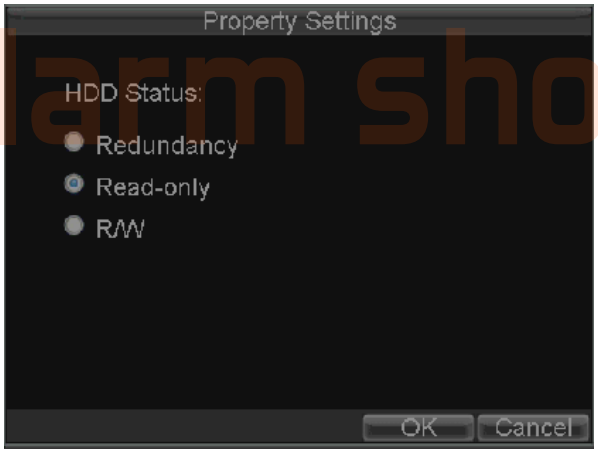

Figure 9. HDD Property Settings Menu

5. Set **HDD Status** to *Read-only* and then click *OK* to finish the settings.

Notes:

1. Once set to read-only, the HDD cannot be written to until it is set back to read/write (R/W).
2. DS-7204HVI-ST, DS-7204HVI-ST/SE, DS-7208HVI-ST/SE, DS-7204HFI-ST, DS-7204HFI-ST/SE, DS-7200HVI-ST/SN, DS-7200HFI-ST/SN and DS-7204HVI-ST/L models can be installed with one HDD only, therefore, when the property is set to read-only, the recording of the device will be stopped.

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Configuring Advanced HDD Settings

Setting up HDD Redundancy

To insure unexpected failures of hard disk drives, it's recommended to set up HDD redundancy. It is important to note that in order to set up HDD redundancy, you'll need more than one HDD in your DVR.

To set up HDD redundancy:

1. Navigate to the HDD Management menu by clicking Menu > HDD management.
2. Click on the **General** tab.
3. Select the HDD to be used for redundancy, as shown in Figure 10.

Figure 10. HDD Management Menu

4. Click the Set button. This will take you to the HDD Settings menu.
5. Set **HDD Status** to Redundancy, shown in Figure 11. Verify at least one other HDD is set to R/W (read/write).
6. Click the OK button to save settings and return to the previous menu.

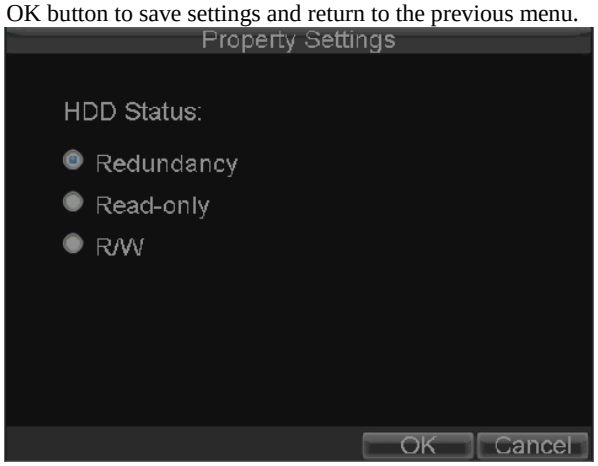

Figure 11. HDD Settings

7. Navigate to the Record Settings menu by clicking Menu > Settings > Record Settings.
8. Click on the **General** tab.
9. Select the **Camera** to be used for redundancy.
10. Next to **More Settings**, click on the Set button. This will bring up additional settings for the selected camera (shown in Figure 12).

Figure 12. Additional Record Settings

11. Set **Redundantly Record** to Yes.
12. Click the OK button to save settings.
13. Repeat steps 8-12 for other cameras you would like to redundantly record.

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CHAPTER 5

Playback

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Video Playback

The Client application allows all users to play back record files of the specified period. Multi-camera simultaneous playback is supported.

Playing back by Channel

Multiple toolbar and buttons are provided on the playback interface to control the video playback. Refer to the following figure:

Figure 1. Playback Interface

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The Playback Control Panel, as shown in Figure 2, provides various control buttons for video playback.

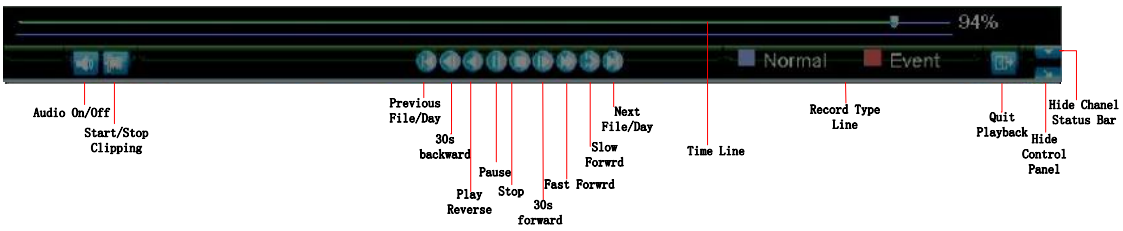

Figure 2. Playback Control Panel

Note: A blue bar refers to the *Normal* recording (scheduled, manual), while the red bar indicates *Event* recording.

Playing back by Video Search

To play back record files by video search:

1. Enter the Video Search menu by clicking Menu > Video Search.
2. Set the search parameters by selecting cameras to search, video/file type and the start/end time (as shown in Figure 3).

Figure 3. Video Search Menu

3. Press the **Play** button on the front panel to start playback of all the files found, or click **Search** to access the list of search results.

   Note: You can click **Details** to view the recording status of each camera.

4. After search results are presented, select the file you want to play back and click **Play**.

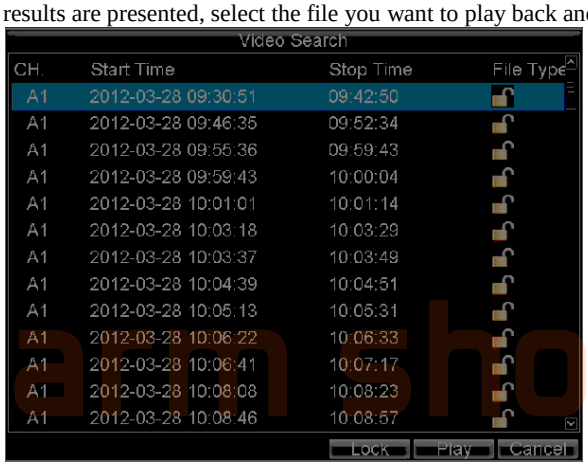

Figure 4. Search Results

5. The selected video files will automatically be played in the Playback interface, as shown in Figure 5.

Figure 5. Playback Interface

- Multi-channel Playback

For multi-channel playback mode, you can select multiple channels for search and click the Play button on the Video Search menu (as shown in Figure 3) to enter the multi-channel playback interface:

Figure 6. Multi-Channel Playback Interface

Playing back by Event Search

To play back video files recorded by event type (e.g., motion detection):

1. Click Menu > Event Search to enter the Advanced menu.
2. Select the event type to search, and set the start/end time (as shown in Figure 7).

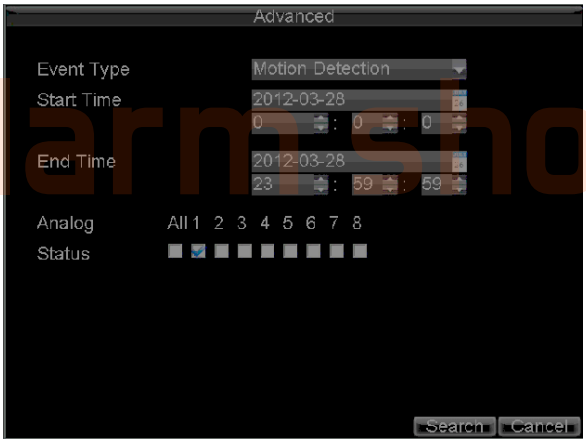

Figure 7. Video Event Search Menu

3. Click **Search** to start searching the video files, and the searching results will be listed.

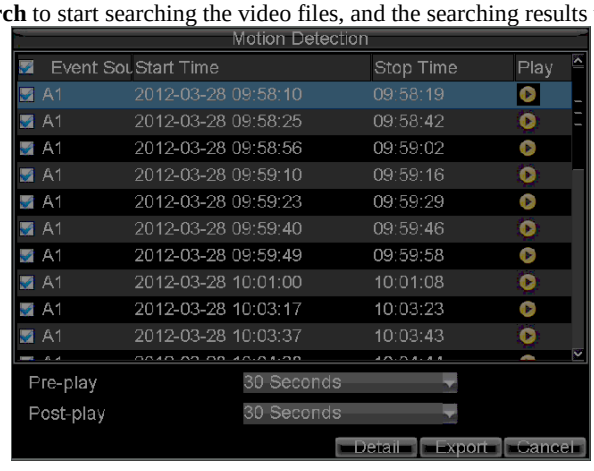

Figure 8. Search Results

4. (A) You can select a video file click the **Play** button to play it, as shown in Figure 9.

Figure 9. Playback Interface

(B) Or you can click the **Detail** button on the Search Results menu to view the Event Detail menu, as shown in Figure 10. And select a video file click the **Play** button to play it, as shown in Figure 8.

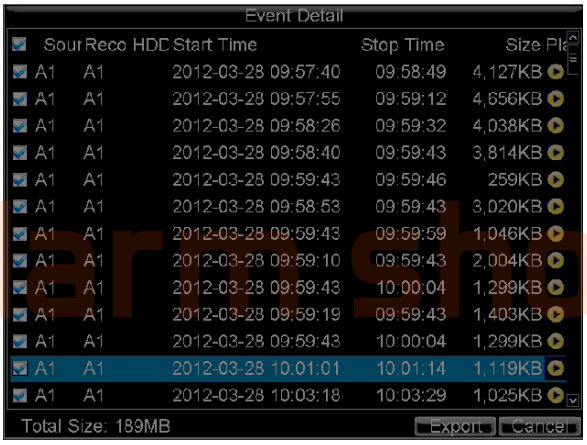

Figure 10. Event Detail Menu

Playing back in Live View Mode

To play back recorded files by channel in Live View mode:

- **By Using a Mouse:**
  1. Right-click the mouse on desired channel and select the *Playback* option.
  2. The recorded video files from the selected channel will start playing back in the Playback window. An *Attention* message will appear if there are no recordings found in the previous 5 minutes.
  3. You may also select additional channels for playback from the channel list on the right side of the Playback interface, as shown in Figure 11.

Figure 11. Playback Interface

• By Using the Front Panel/Remote:

1. Press the *PLAY* button on front panel to access the **Playback** mode.
2. Enter the channel you want to view record video from the front panel or remote control (i.e. press 'SHIFT', the STATUS light will turn green, then press '01' for channel 1, press '02' for channel 2).
3. Recordings will start for the selected channel.

Notes:

1. The DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models do not provide operating buttons on front panel.
2. The record video for playback is of the previous 5 minutes.

• Multi-camera Playback

1. Select the cameras from the camera list you want to have simultaneous playback.
2. Click to stop the ongoing video playback.
3. Click to start multi-camera simultaneous playback.

Notes:

1. Up to 16 cameras can be played back simultaneously.
2. The camera list operation is accessible by mouse only. Please do not operate by front panel.
3. If the camera numbered the lowest among the multiple cameras selected for simultaneous playback provides no record files of the current day selected from the calendar, then the warning message "Playback failed" will be displayed on the screen.
4. The video for simultaneous playback by multiple cameras selected from the camera list refers to the all-day record files of the selected day.

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Playing back by System Log

To play back video files from the System Log:

1. Click Menu > Maintenance > Log Search to enter the Log Search menu.

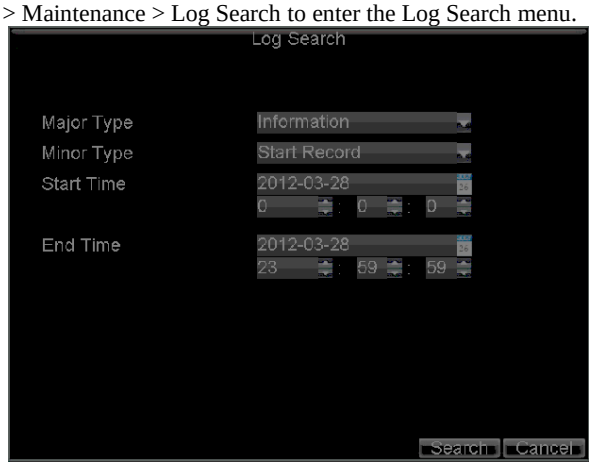

Figure 12. Log Search Menu

2. Set **Major Type** to *Information*; set **Minor Type** to *Start Record* or *End Record*; and then select the **Start Time** and **End Time** as well. Click the *Search* button.
3. Click the **Search** button. A list of search results will be displayed.

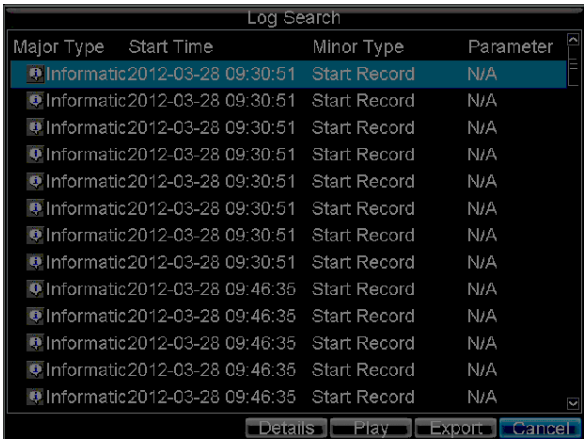

Figure 13. Log Search Result

4. Select a video log from the list to play back and click *Play*.
5. The selected recorded video files then will begin to play in the Playback interface.

Playing back by Frame

To play back frame-by-frame in the Playback interface:

- **By Using a Mouse:**
  1. Click the **Slow Forward** button on the Playback Control Panel until the speed changes to Single frame.
  2. Click the **Pause** button to advance the video frame by frame.
- **By Using the Front Panel/Remote Control:**
  1. Press the *Down* button to select the playback speed to *Single* frame.
  2. Press the *Enter* button to advance the video frame by frame.

Digital Zoom

To use digital zoom in Playback mode:

1. Right click the mouse in Playback mode.
2. Select *Digital Zoom* from drop-down submenu.
3. Left click and drag the red box to the desired area for zooming. The zoomed image will be magnified by 16 times. An example is given in the following figure:

Figure 14. Digital Zoom in Playback Mode

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CHAPTER 6

Backup

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Backing up Recorded Files

Recorded files can be backed up to various devices, such as USB flash drives, USB HDDs or a DVD writer.

Exporting Record Files by Video Search

To export record files via normal video search:

1. Click Menu > Video Search to enter the Video Search menu, shown in Figure1.

Figure 1. Video Search Menu

2. Select desired parameters to search for files to export.
3. On the toolbar, press the *Export* button to enter the Record Backup interface with the list of video search results.
4. Select the files to export, as shown in Figure 2. You may also click the *Play* button to confirm the record file you want to export.

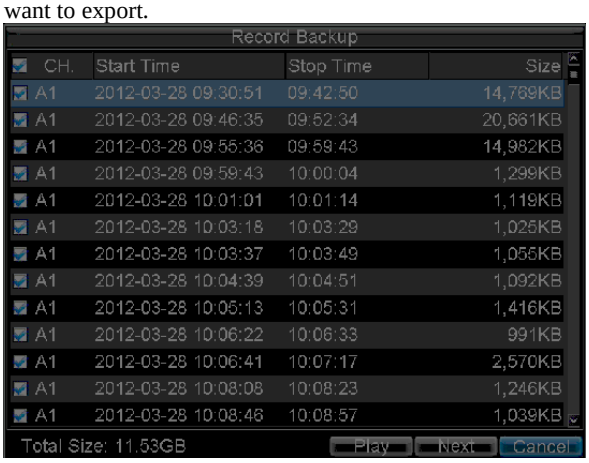

Figure 2. Record Backup Menu

5. The size of the currently selected files is displayed at the lower-left corner of the window. Click the *Next* button to enter the **Export** menu, shown in Figure 3.

Figure 3. Export Menu

6. Select device to which the record file is exported from drop-down list (USB Flash Drive, USB HDD, DVD Writer). If backup device is not recognized:
   - Click the *Refresh* button.
   - Reconnect device.
   - Check for compatibility from vendor.
7. Click *Start* to begin backup process, shown in Figure 4.

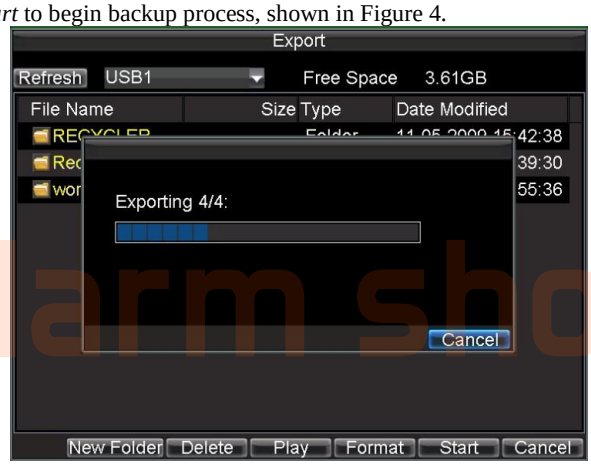

Figure 4. Backup Progress

8. After the backup process has completed (Figure 5), you may select the files from your device and click the *Play* button to verify that it has been exported successfully.

Figure 5. Export Successful Screen

Note: Video Player software will automatically be copied on to the device that the recorded files were exported on.

Exporting Record Files by Event Search

To export record files via event search:

1. Click Menu > Event Search to enter the Advanced menu, shown in Figure 6.

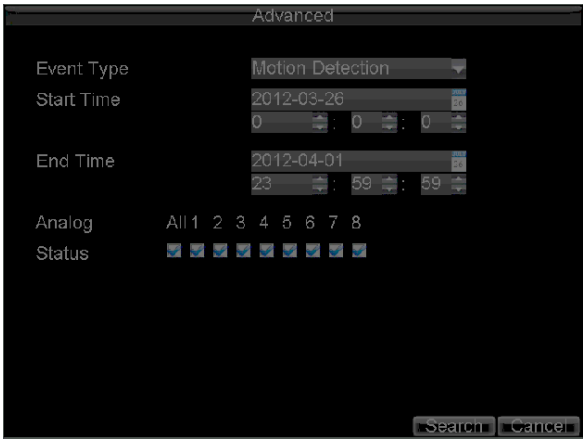

Figure 6. Event Search Menu

2. Set the search parameters by selecting event type to search, and the start/end time.
3. Click the **Search** button to enter the search results interface.

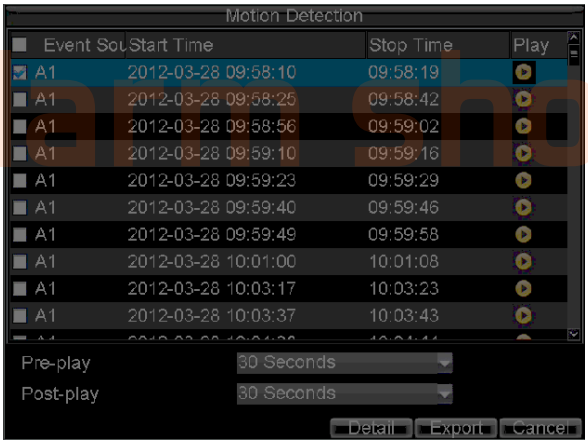

Figure 7. Event Search Results

4. Select the files from the list to export. You may also click the **Play** icon to verify that these files are indeed the ones you would like to export.
5. Press the **Export** button to enter Export menu, then you can export the files following the step 6 to step 8 in Chapter *Exporting Record Files by Video Search*.

Exporting Video Clips

You may also select video clips to export directly in Playback status. A maximum of 30 clips can be selected for each channel.
To export video clips during Playback:

- **By Using the Mouse:**
  1. Enter the Playback interface (See ***Video Playback***).
  2. Click the *Clip Start/Stop* button on the Playback Control Panel, and select the start and end of

the video clip during playback.

3. Repeat for additional clips.
4. Click the *Quit Playback* button to exit from the Playback interface. You'll then be prompted to save the clips, as shown in Figure 8.

Figure 8. Video Clips Saving Prompt

5. Click the *Yes* button to enter Backup interface or select *No* to exit Playback interface.
6. At the Backup interface, select the *Start* button to begin the Backup process.

• By Using the Front Panel / Remote:

1. Enter the **Playback** interface (See ***Video Playback***).
2. During playback, press the *EDIT* button to mark start of clip.
3. Press the *EDIT* button again to mark end of clip.
4. Repeat for additional clips.
5. Press the *ESC* button to exit from the Playback interface. You'll then be prompted to save the clips, as shown in Figure 6.
6. Click the *Yes* button to enter Backup interface or select *No* to exit Playback interface.
7. At the Backup interface, select the Start button to begin the Backup process.

Managing Backup Devices

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To manage backup devices, you must first be in the Export menu, shown in Figure 9. The Export menu can be accessed by following the steps shown in the previous section (See ***Exporting Files***).

Figure 9. Export Menu

Once in the Export menu, you may:

- **Create New Folder:** Creates a new folder on the export device.
- **Delete:** Delete a file or folder from the export device.
- **Play:** Play the selected video file from the export device.
- **Format:** Format the export device.
- **Erase:** Erase files from a re-writable CD/DVD.

CHAPTER 7

Alarm Settings

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Configuring Alarms

Motion Detection Alarm

Operate the following steps to configure Motion Detection Recording:

1. Click Menu > Settings > Camera to access the Camera Settings menu, as shown in Figure 1.

Figure 1. Camera Management Interface

2. Select the **Advanced** tab to enter the **Advanced Camera Settings** menu, shown in Figure 2.

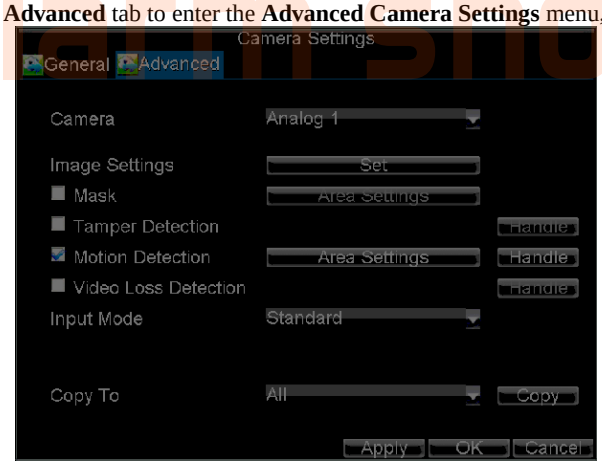

Figure 2. Advanced Camera Settings

3. Select **Motion Detection** first and click the *Area Settings* button to enter the Motion Detection Area and Sensitivity settings interface.
4. As shown in Figure 3, the Motion Detection area allows you to mask areas you want to configure motion detection. The maximum area can be set to be full screen. You can left click mouse, hold and drag it to mask the Motion Detection area. Using *EDIT* button and direction buttons can also help you to select Motion Detection area.

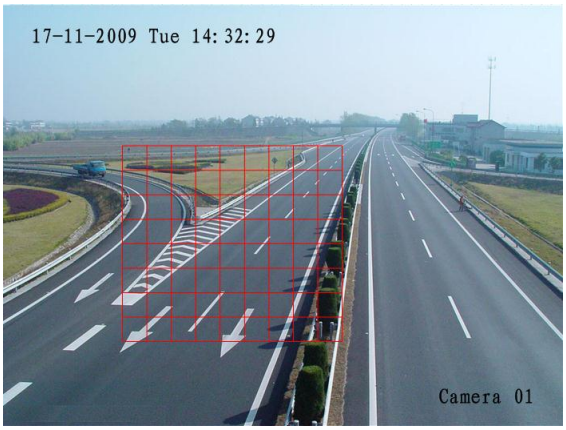

Figure 3. Motion Detection Area

5. Right click mouse or press the *MENU* button on the front panel to set the Motion Detection Sensitivity, shown in Figure 4. Higher sensitivity value corresponds to higher sensitivity level.

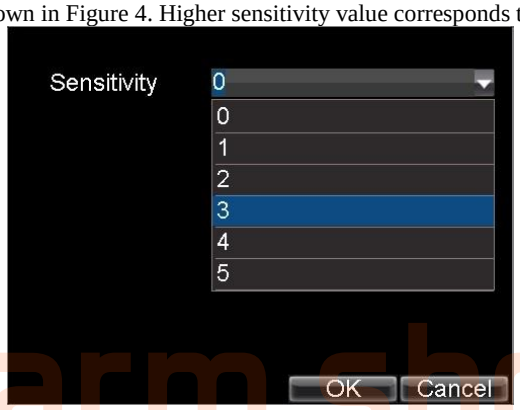

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Figure 4. Motion Sensitivity Settings

6. Click *OK* to return to the **motion detection area settings** interface.
7. Right click the mouse to select the *Exit* from the menu to return to the **Advanced Camera Settings** menu.
8. Click the *Handle* button to enter the **Exception Handle** menu, shown in Figure 5.

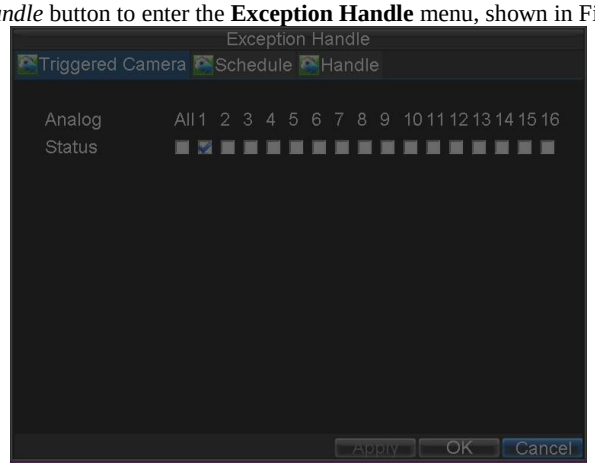

Figure 5. Triggered Camera Settings

9. Select cameras to trigger for recording when motion is detected by checking the checkboxes under the desired cameras.
10. Select the **Schedule** tab. Set the schedule you want motion detection to be enabled. Schedule can be set for all week or any day of the week with up to 8 time periods per day.

Note: After having configured the schedule, the DVR must be restarted for the new settings to take effect.

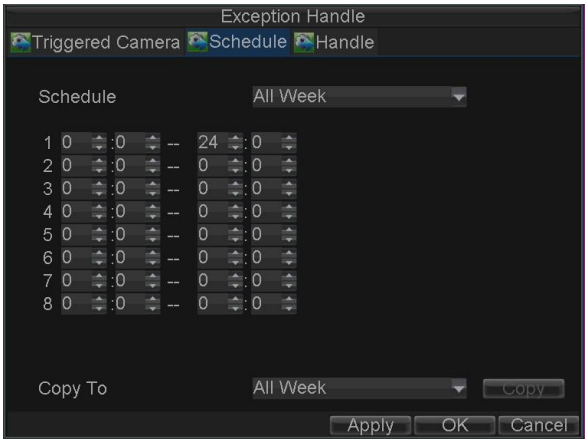

Figure6. Schedule Settings

11. Select the **Handle** tab to configure exceptions handling. Exception trigger options will be described in the next section (See *Understanding Exception Trigger Options*).

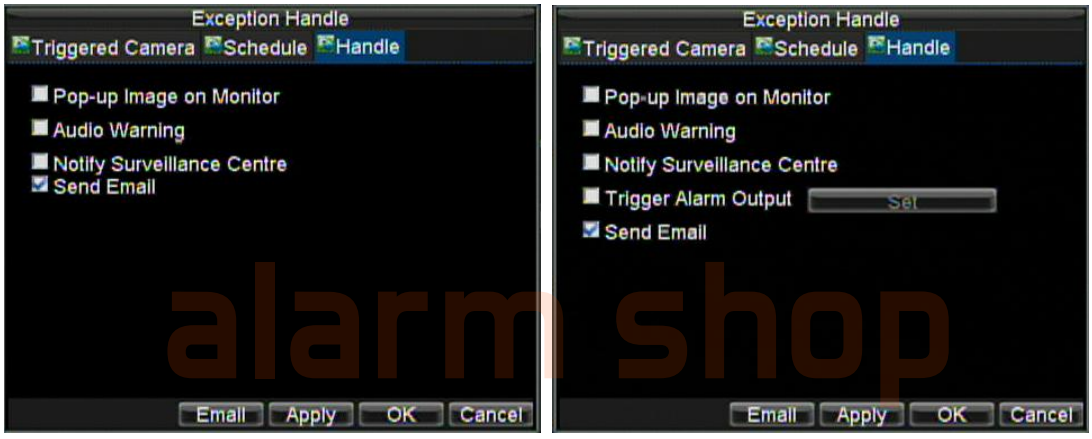

Figure7. Handle Settings

12. Click *OK* to complete motion settings for the selected camera.

You may now add a schedule to start recording when motion is detected (See ***Scheduling Recording***).

Note: The **Trigger Alarm Output** option is not available for DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models as they provide no alarm in/out.

Sensor Alarm Settings

Note: This section is invalid for DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models as they provide no alarm in/out.

Recordings can also be triggered from an external relay alarm device. To set up sensor alarms:

1. Click Menu > Settings > Alarm to enter the Alarm Settings menu, shown in Figure 8.

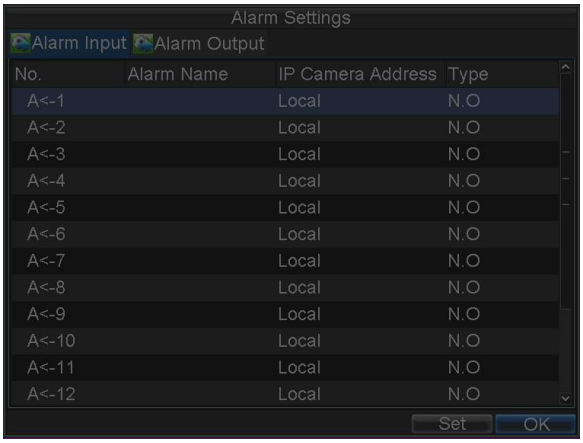

Figure 8. Alarm Management Menu

2. Select the Alarm Input No. and click the *Set* button to enter the Alarm Input Settings menu, shown in Figure 9.

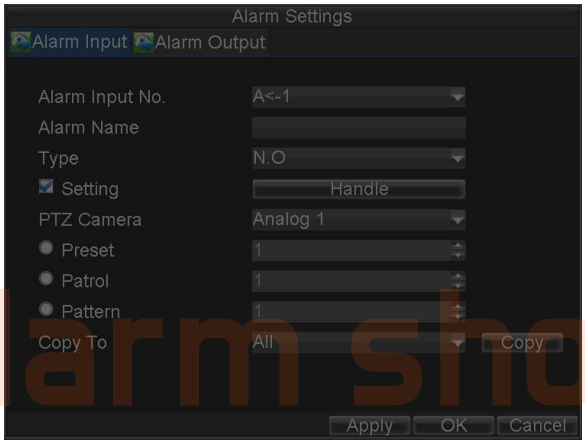

Figure 9. Alarm Management Settings

3. Set the alarm input type to be Normally Opened (N.O) or Normally Closed (N.C).
4. Check the checkbox next to **Setting** and click the *Handle* button to enter the Alarm Input Handle menu.
5. Select the **Triggered Camera** tab.
6. Select cameras to trigger for recording when alarm occurs by checking the checkboxes under the desired cameras, as shown in Figure 10.

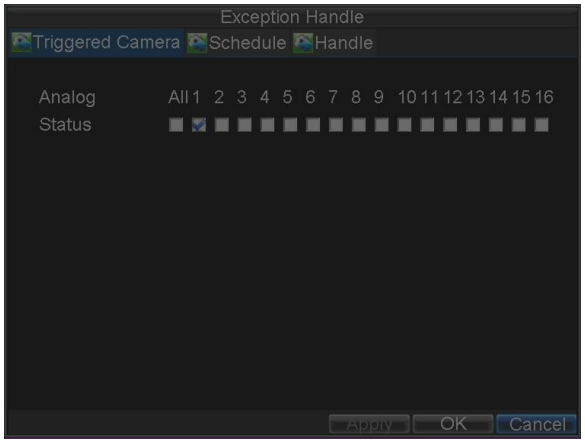

Figure 10. Triggered Cameras Menu

7. User may select the PTZ camera to link with the alarm input and then set the callup of preset, patrol and pattern for alarm linked actions.
8. Click the *OK* button to complete setup.

You may now add a schedule to start recording when an alarm is triggered (See ***Scheduling a Recording***).
Alarm outputs may also be configured in the **Alarm Management** menu. To set up Alarm Output:

1. Select the **Alarm Output** tab. This will bring up the Alarm Output interface, shown in Figure 11.

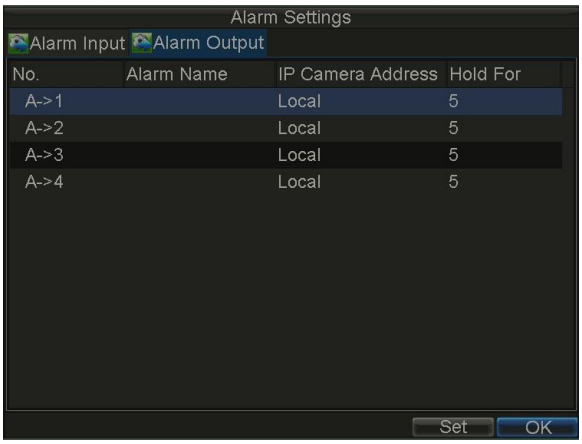

Figure 11. Alarm Output Interface

2. Select the output you would like to configure and click the Set button. This will bring up the settings page for the selected channel (Figure 12).

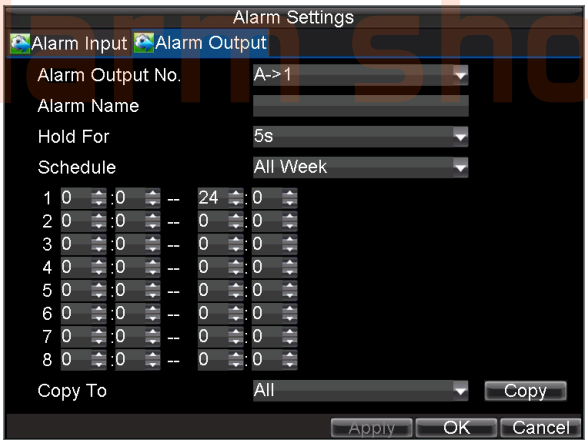

Figure 12. Alarm Output Settings

3. Configure the settings for selected output.
4. Select OK to save and exit.

Note: If the **Hold For** option is selected as *Manually Stop*, the alarm will only stop when you manually stop it (See ***Triggering Alarm Outputs Manually***).

Manual Alarm Triggering

Note: This section is invalid for DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models as they provide no alarm in/out.

You may also trigger alarm outputs manually through the Manual Alarm menu.

To trigger alarm outputs manually:

1. Click Menu > Manual Alarm to enter the Manual Alarm menu (Figure 13).

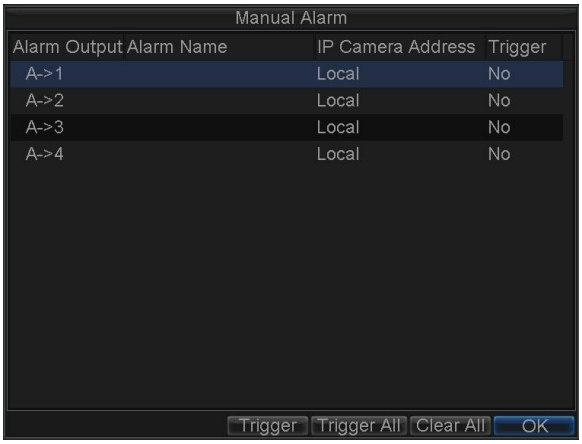

Figure 13. Manual Alarm Menu

2. Configure the following settings in the Manual Alarm menu:
   - **Trigger:** Select an alarm from the list and click *Trigger* to trigger its output.
   - **Trigger All:** Trigger all alarm outputs at once.
   - **Clear All:** Stop all alarm outputs at once.
3. Select *OK* to return to the previous menu.

Video Loss Detection

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Your DVR can be set up to detect video loss and trigger an action. To set up video loss detection:

1. Click Menu > Settings > Camera to enter Camera Settings menu, shown in Figure 14.

Figure 14. Camera Management Menu

2. Select the **Advanced** tab.
3. Select the camera to be configured with video loss detection.
4. Check the **Video Loss Detection** checkbox to enable this feature, as shown in Figure 15.

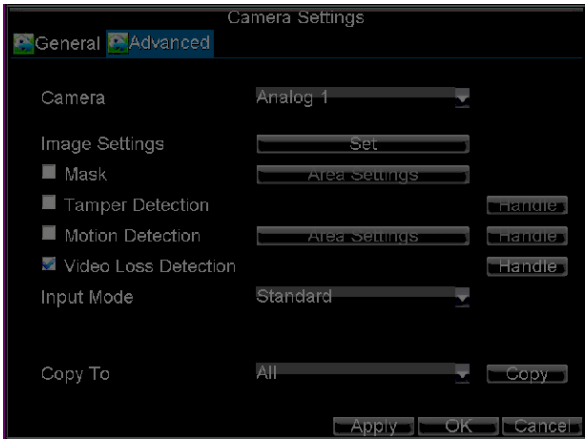

Figure 15. Camera Settings Menu

5. Click the *Handle* button to enter the Exception Handle menu, shown in Figure 16.
6. Select the **Schedule** tab. Set the schedule you want video loss detection to be enabled. Schedule can be set for all week or any day of the week with up to 8 time periods per day.

Note: After having configured the schedule, the DVR must be restarted for the new settings to take effect.

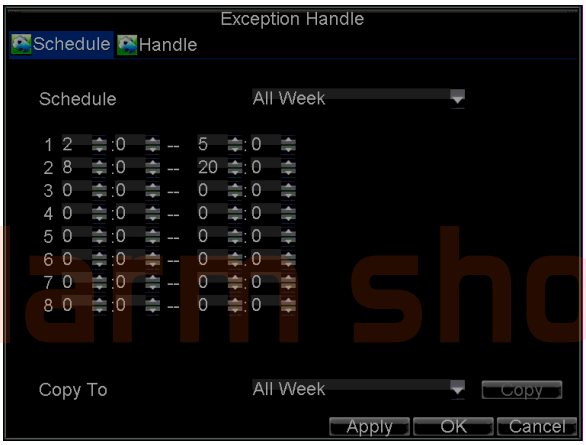

Figure 16. Schedule Settings for Video Loss Detection

7. Select the **Handle** tab to configure exceptions handling. Exception trigger options will be described in the next section (See ***Understanding Exception Trigger Options***).

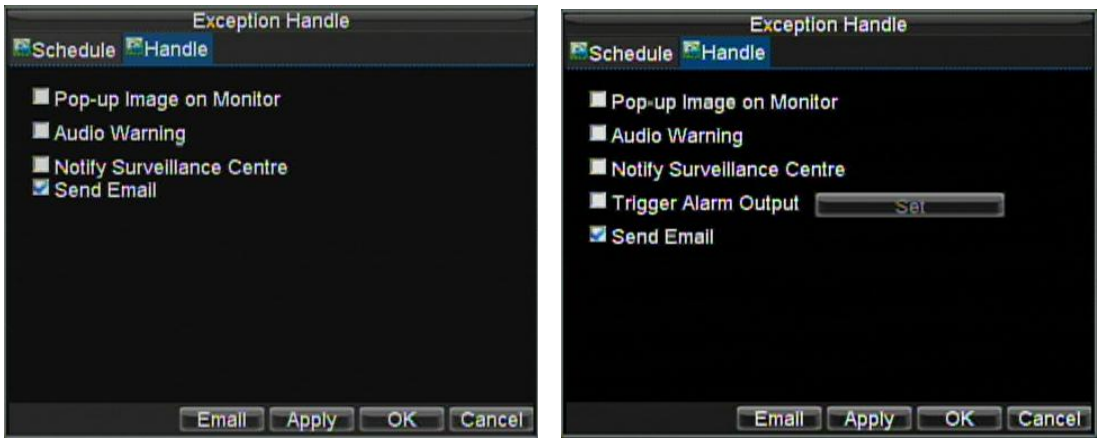

Figure 17. Exception Handle Menu

8. Click *OK* to finish the settings.
9. Repeat above steps to configure settings for other channels.

Note: The **Trigger Alarm Output** option is not available for DS-7200HVI-ST/SE and DS-7200HFI-ST/SE models as they provide no alarm in/out; and the **Send Email** option is invalid for DS-7204HVI-ST/SE model.

Video Tampering Detection

The video tampering can also be detected and set to trigger an action on your DVR.

Note: The video tampering detection area is in full-screen mode by default and cannot be configured.

To set up video tempering detection:

1. Click Menu > Settings > Camera to enter the Camera Settings menu, shown in Figure 18.

Figure 18. Camera Management Menu

2. Select the **Advanced** tab.
3. Select the camera to be configured with video tampering detection.
4. Check the **Tamper Detection** checkbox to enable this feature, as shown in Figure 19.

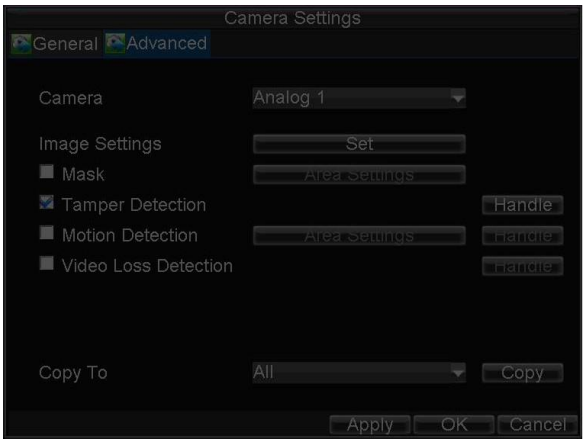

Figure 17. Camera Settings Menu

5. Click the **Handle** button to enter the Exception Handle menu, shown in Figure19.
6. Select the *Schedule* tab. Set the schedule you want video tampering detection to be enabled. Schedule can be set for all week or any day of the week with up to 8 time periods per day.

Note: After having configured the schedule, the DVR must be restarted for the new settings to take effect.

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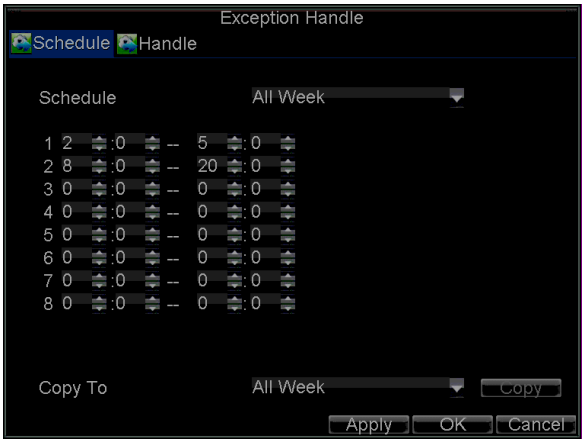

Figure 20. Schedule Settings for Video Tampering Detection

7. Select the **Handle** tab to configure exceptions handling. Exception trigger options will be described in the next section (See ***Understanding Exception Trigger Options***).

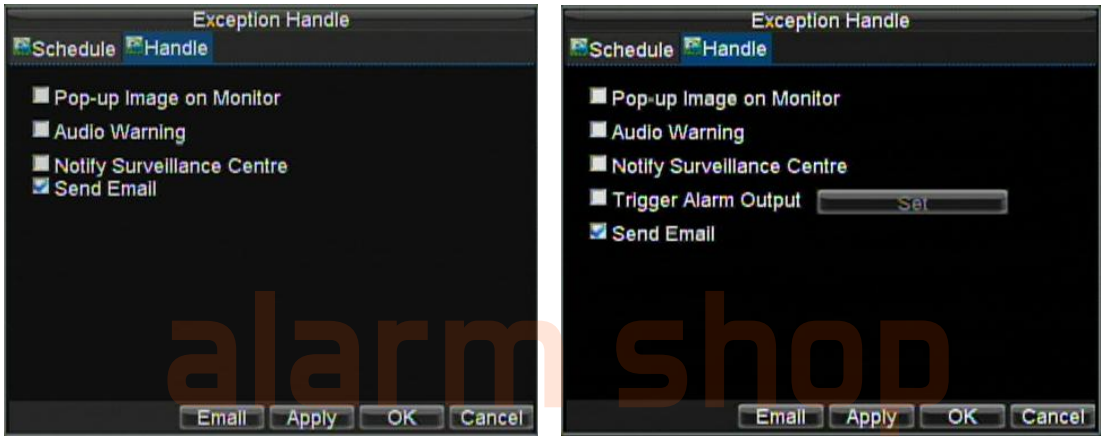

Figure 21. Exception Handle Menu

8. Click *OK* to finish the settings.
9. Repeat above steps to configure settings for other channels.

Note: The **Trigger Alarm Output** option is invalid for DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models as they provide no alarm in/out.

Exception Settings

The exception setting allows the DVR to alert you when irregular events occur. These events include:

- **HDD Full:** All installed HDD are full.
- **HDD Error:** Errors occurred during writing of the HDD, no HDD installed or HDD had failed to initialize.
- **Network Disconnected:** Disconnected network cable.
- **IP Conflict:** Conflict in IP address setting.
- **Illegal Login:** Incorrect user ID or password used.
- **Video Output Standard Mismatch:** video output standards do not match with each other.

To set exceptions:

1. Click Menu > Settings> Exception to enter the Exception menu.
2. Select the exception to configure under **Exception Type**.
3. Select triggering options, as shown in Figure22. Trigger options are further explained in the next section (See ***Understanding Exception Trigger Options***).

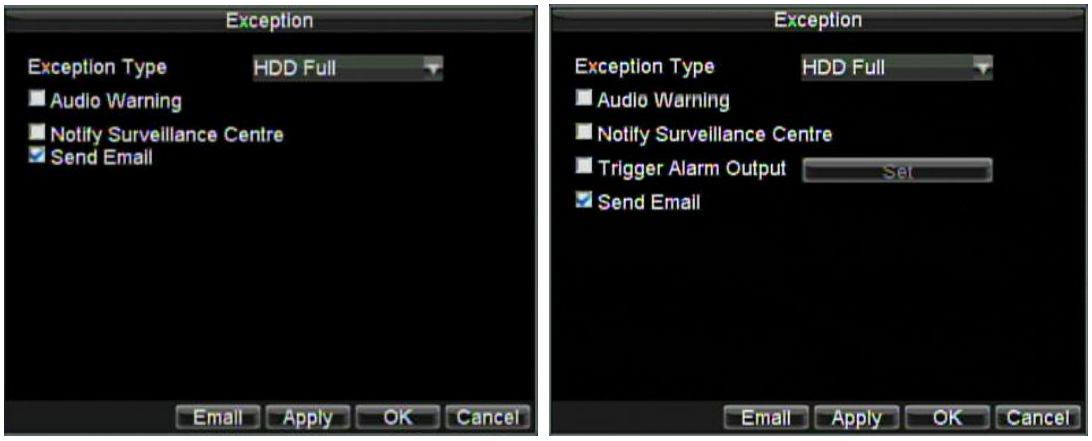

Figure 20. Exception Menu

4. Click *OK* to save settings and exit Exception menu.

Note: The **Trigger Alarm Output** option is not available for DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models as they provide no alarm in/out.

Understanding Exception Trigger Options

When setting up exception handlers for such features as motion detection and relay alarms, you may select triggering options to alert you of these exceptions.

The triggering options that you may select include:

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- **Pop-up Image on Monitor:** When an alarm is triggered, the local monitor (VGA or BNC monitor) will display an image in Live View mode. This alarm can be configured under the Popup Alarm Image handle method. For alarms that are triggered simultaneously, images will be displayed one at a time every 10 seconds (default dwell time). A different dwell time can be set by going to Menu > Settings > Display > Dwell Time. Once the alarm stops, cycling of the images will also stop and you'll be returned to the Live View screen.
- **Audio Warning:** Trigger an audible *beep* when exception is detected.
- **Notify Surveillance Centre:** Sends a signal to remote alarm host when exception is detected (See ***Configuring Remote Alarm Host Settings***).
- **Trigger Alarm Output:** Trigger an alarm output when exception is detected. Alarm output can be configured by following the steps listed in ***Sensor Alarm Settings*.**

Note: The **Trigger Alarm Output** option is not available for DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models as they provide no alarm in/out.

C H A P T E R 8

Network Settings

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Configuring Network Settings

Network settings must be configured if DVR is used for monitoring over network.

Configuring General Settings

To configure general network settings:

1. Click Menu > Settings > Network to enter the Network Settings menu, shown in Figure 1.

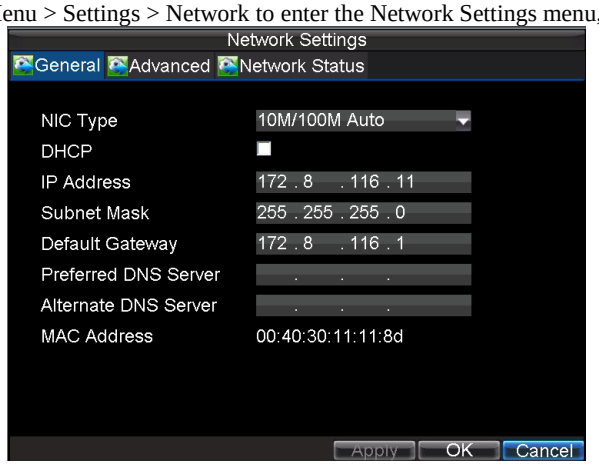

Figure 1. Network Settings Menu

2. Select the **General** tab. Configure the settings on the interface.
3. If you have a DHCP server running and would like your DVR to automatically obtain an IP address and other network settings from that server, check the **DHCP** checkbox. You may check the DHCP status by going to the **Network Status** tab, as shown in Figure 2.

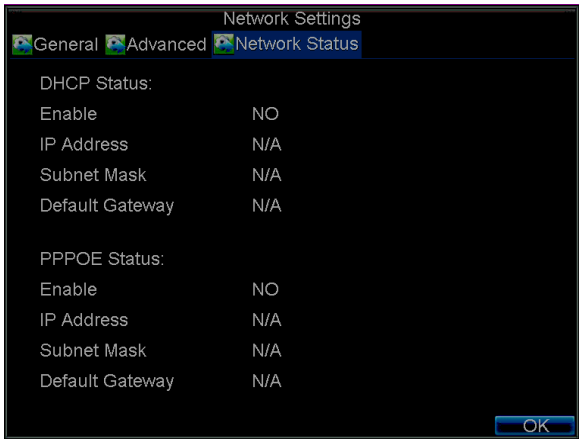

Figure 2. Network Status

4. If you want to configure your own settings, enter the settings for:
   - **IP Address:** IP address you would like to use for your DVR.
   - **Subnet Mask:** Subnet Mask of network.
   - **Default Gateway:** IP address of your Gateway. Typically the IP address of your router.
   - **Preferred/Alternate DNS Server:** The preferred and alternate Domain Name System (DNS) Server to be used with your DVR.
5. Click *OK* to save settings and exit the Network Settings menu.

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Configuring PPPOE Settings

Your DVR also allows for Point-to-Point Protocol over Ethernet (PPPOE) access. To set up PPPOE access:

1. Click Menu > Settings > Network to enter the Network Settings menu.
2. Select the **General** tab, as shown in Figure 3.

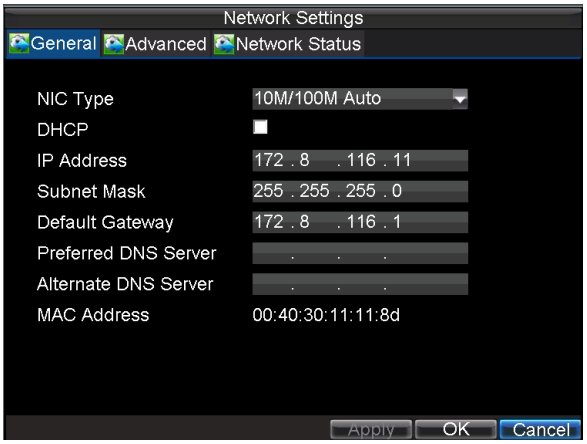

Figure 3. Network Settings Menu

3. Select the **Advanced** tab to enter the Advanced Network Settings menu, shown in Figure 4.

Figure 4. Advanced Network Settings

4. Click the *Set* button beside **PPPOE** to enter PPPoE Settings menu, shown in Figure 5.

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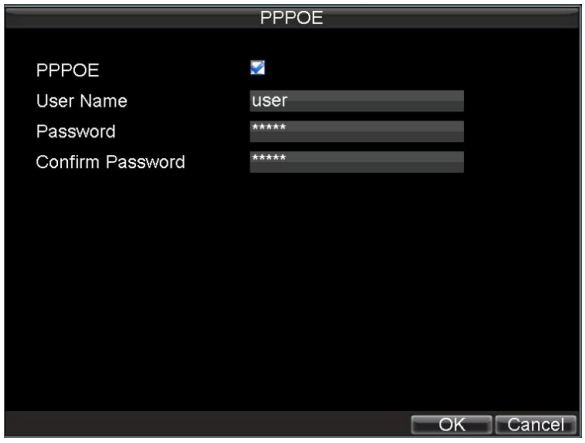

Figure 5. PPPoE Settings

5. Check the **PPPOE** checkbox to enable this feature.
6. Enter **User Name**, **Password**, and **Confirm Password** for PPPOE access. PPPOE credentials can be obtained from your network administrator. Once the setup is completed, your DVR will automatically *dial-up* into your network after reboot.
7. Click *OK* to save settings and exit Network Settings menu. You may be now asked to restart your DVR for settings to take place. To check on the status of your PPPoE connection, go to Menu > Settings > Network and select the **Network Status** tab.

Configuring DDNS

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If your DVR is setup to use PPPoE as its default network connection, you may set up Dynamic DNS (DDNS) to be used in connection.

To set up DDNS:

1. Click Menu > Settings > Network to enter the Network Settings menu.
2. Select the **Advanced** tab.
3. Click the *Set* button beside **DDNS** to enter the DDNS settings menu, shown in Figure 6.

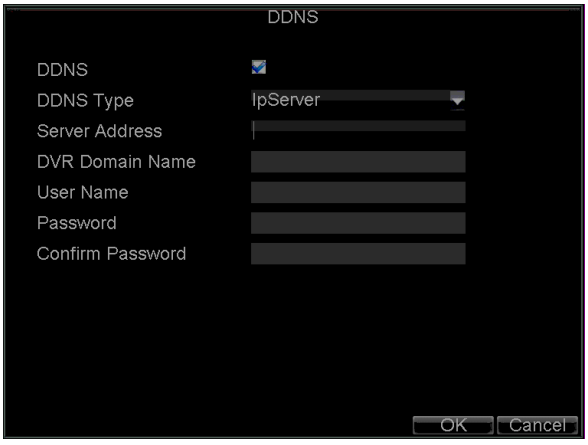

Figure 6. DDNS Settings Menu

4. Check the **DDNS** checkbox to enable this feature.
5. Select **DDNS Type**. Three different DDNS types are selectable: easyDDNS, IpServer, DynDNS, PeanutHull and NO-IP.
   - **IpServer:** Enter **Server Address** for IpServer. Refer to Figure 6.

- **PeanutHull:** Enter **User Name** and **Password** obtained from the PeanutHull website (Figure 7).

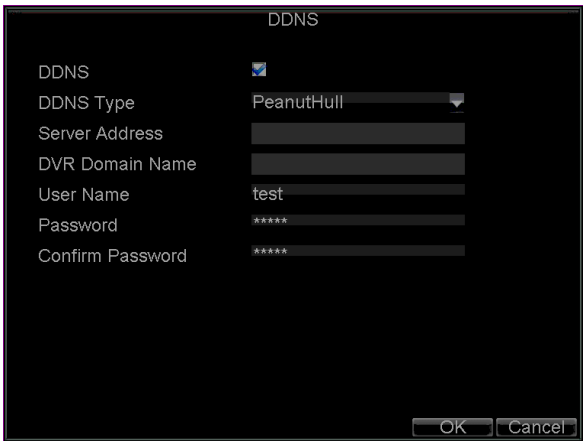

Figure 7. DynDNS Settings

- **DynDNS:**

1) Enter **Server Address** for DynDNS (e.g. members.dyndns.org).
2) In the **Device Domain Name** text field, enter the domain obtained from the DynDNS website.
3) Enter the **User Name** and **Password** registered in the DynDNS website.

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Figure 8. DynDNS Settings

- **easyDDNS:** Enter default **Server Address** (www.hik-online.com) and the DVR Domain Name, shown in Figure9.

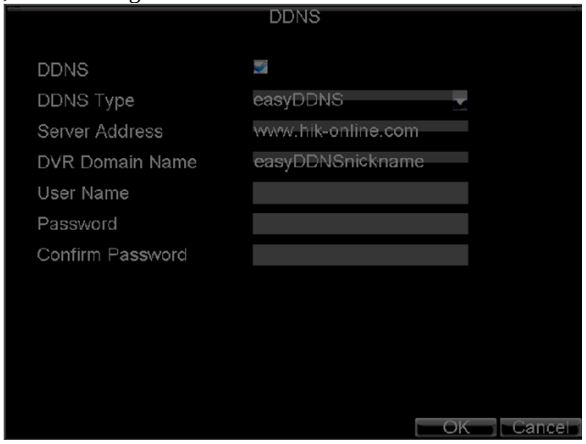

Figure 9. easyDDNS Settings

- **NO-IP:**

Enter the account information in the corresponding fields. Refer to the DynDNS settings.

1) Enter **Server Address** for NO-IP.
2) In the **Device Domain Name** text field, enter the domain obtained from the NO-IP website (www.no-ip.com).
3) Enter the **User Name** and **Password** registered in the NO-IP website.

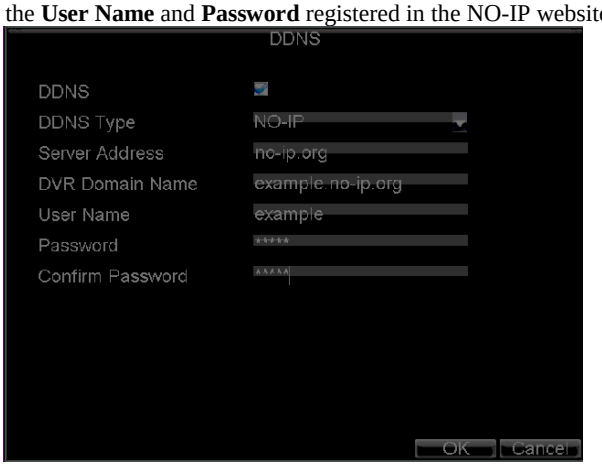

Figure 10. NO-IP Settings

Configuring NTP Server Settings

A Network Time Protocol (NTP) Server may also be set up on your DVR to maintain accurate current date and time.

To set up an NTP server:

1. Click Menu > Settings > Network to enter the Network Settings menu.
2. Select the **Advanced** tab.
3. Click the *Set* button next to **NTP** to enter the NTP Settings menu, as shown in Figure 8.

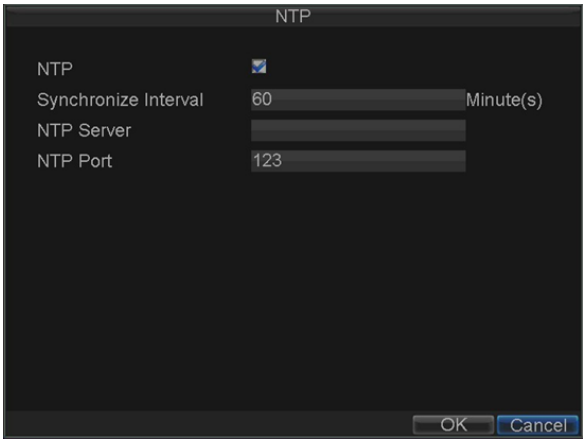

Figure 8. NTP Settings Menu

4. Check the **NTP** checkbox to enable this feature.
5. Configure NTP settings:
   - **Synchronize Interval:** Time in minutes to synchronize with NTP server.
   - **NTP Server:** Address of NTP server.

Note: The address can be set to the IP address or the Domain name. When the Domain name is used, please set the DNS server address.

6. Click *OK* to save settings and exit the NTP Settings menu.

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Note: Time synchronization interval has a range of 0-10080 min, normally 7200 min. If the DVR is used on a public network, you should use a NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the DVR is setup in a more customized network, NTP software can be used to establish a NTP server used for time synchronization.

Configuring Remote Alarm Host Settings

With a remote alarm host set, the DVR will send a signal to the host when an alarm is triggered. The remote alarm host must have the Network Video Surveillance software installed.

To set up a remote alarm host:

1. Enter Network settings menu by clicking Menu > Settings > Network.
2. Select the **Advanced** tab.
3. Click the Set butt next to **Host/Others** to enter the Host/Others menu, as shown in Figure 9.

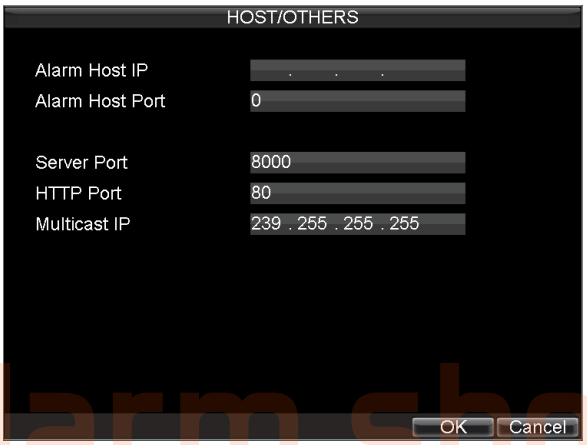

Figure 9. Host/Others Menu

4. Enter **Alarm Host IP** and **Alarm Host Port**. Alarm Host IP is the IP of the remote PC which has the Network Video Surveillance software installed. The Alarm Host Port must be the same as software's alarm monitor port (default port is 7200).

Configuring Multicast

Setting up multicasting solves limitation issues when streaming videos through a network access device. A multicast address spans the Class-D IP range of 224.0.0.0 to 239.255.255.255. It is recommended to use the IP address range from 239.252.0.0 to 239.255.255.255.

To set up multicast:

1. Click Menu > Settings > Network to enter the Network Settings menu.
2. Select the **Advanced** tab.
3. Click the *Set* button next to **Host/Others** to enter the Host/Others menu.
4. Set **Multicast IP**, as shown in Figure 10. When adding a device to the Network Video Surveillance software, the multicast address must be the same with the DVR's multicast IP.

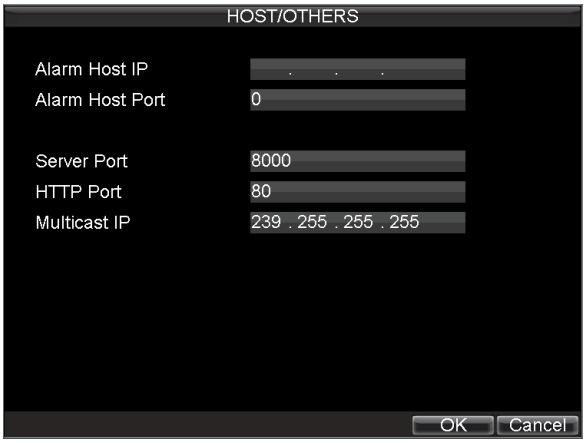

Figure 10. Host/Others Menu

5. Click *OK* to save settings and exit the Host/Others menu.

Configuring Server and HTTP Ports

If you would like to change the server and HTTP ports from the default settings, you can do so in the Network Settings menu. The default server port is 8000 while the default HTTP port is 80.

To change the default ports:

1. Click Menu > Settings > Network to enter the Network Settings menu.
2. Select the **Advanced** tab.
3. Click the *Set* button next to **Host/Others** to enter the Host/Others menu.
4. Enter new **Server Port** and **HTTP Port**, as shown in Figure 11.

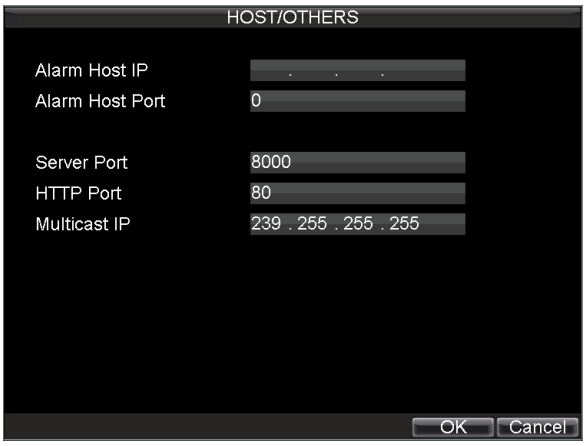

Figure 11. Host/Others Menu

Note: The Server Port has a port range of 2000-65535 and is used for remote client software access. The HTTP port is used for remote Internet browser access.

Configuring Email

The device can be configured to send an Email notification to all designated users if an alarm event is detected or a motion detection event is detected, etc.
Before configuring the Email settings, the device must be connected to a local area network (LAN) that maintains

an SMTP mail server. The network must also be connected to either an intranet or the Internet depending on the location of the e-mail accounts to which you want to send notification.

To configure the Email settings:

1. Click Menu > Settings > Network to enter the Network Settings menu.
2. Select the **Advanced** tab.
3. Click the *Set* button next to **Email** to enter the Email settings menu.

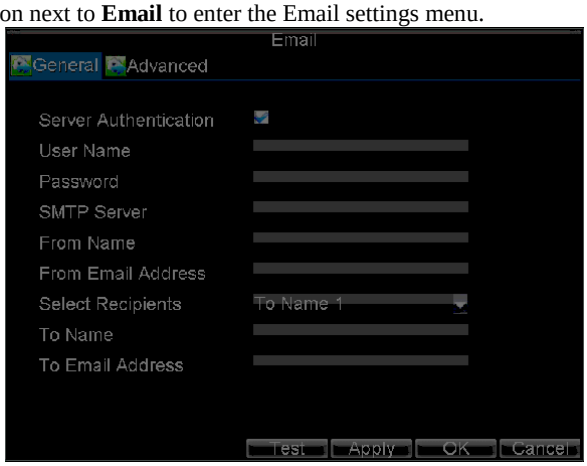

Figure 12. Host/Others Menu

4. Configure the following Email settings:
   Server Authentication (optional): Check the checkbox to enable the server authentication feature.
   User Name: The user account of sender's Email for SMTP server authentication.
   Password: The password of sender's Email for SMTP server authentication.
   SMTP Server: The SMTP Server IP address or host name (e.g., smtp.263xmail.com).
   From Name: The name of sender.
   From Email Address: The Email address of sender.
   Select Recipients: Select the receiver. Up to 3 receivers can be configured.
   To Name: The name of user to be notified.
   To Email Address: The Email address of user to be notified.
5. Click the **Apply** button to save the Email settings.

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C H A P T E R 9

PTZ Control

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Navigating PTZ Menu

PTZ menus can be navigated through with either the mouse or the front panel/remote. For quick access to certain PTZ settings, right click with the mouse on the screen while in PTZ control mode tol enter the PTZ settings menu. This menu is shown in Figure 1.

Figure 1. PTZ Settings Menu

The items that can be found on this menu include:

- **Camera:** Select a PTZ camera.
- **Call Preset:** Call a PTZ preset.
- **Call Patrol:** Call a PTZ sequence.
- **Call Pattern:** Call a PTZ pattern.
- **Preset Settings:** Enter PTZ preset configuration menu.
- **Patrol Settings:** Enter PTZ sequence configuration menu.
- **Pattern Settings:** Enter PTZ pattern configuration menu.
- **PTZ Menu:** Enter PTZ control menu.
- **PTZ Settings:** Enter PTZ settings menu.

Configuring PTZ Settings

Settings for a PTZ camera must be configured before it is used. Before proceeding, verify that the PTZ and RS-485 of the DVR are connected properly.

To configure PTZ settings:

1. Click Menu > Settings > PTZ to enter the PTZ Settings menu, shown in Figure 2.

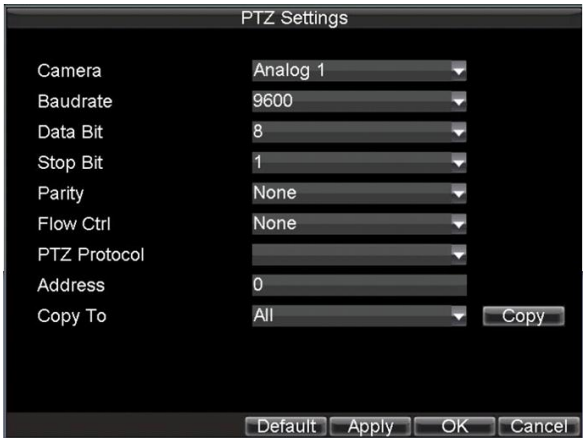

Figure 2. PTZ Settings Menu

2. Select channel where PTZ camera is installed next to **Camera** label.
3. Configure the settings of baud rate, data bit, stop bit, parity, flow control, PTZ protocol and address.
4. Click *OK* to save settings and exit the PTZ Settings menu.

Note: All setting parameters (baud rate, data bit, stop bit, parity, flow control, PTZ protocol and address) must be consistent with the PTZ camera connected.

Setting PTZ Presets, Patrols & Patterns

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The DVR allows you to program presets, patrols and patterns for a connected PTZ camera.

Understanding PTZ Controls

The PTZ control panel provides a series of PTZ controls, shown in Figure 3.

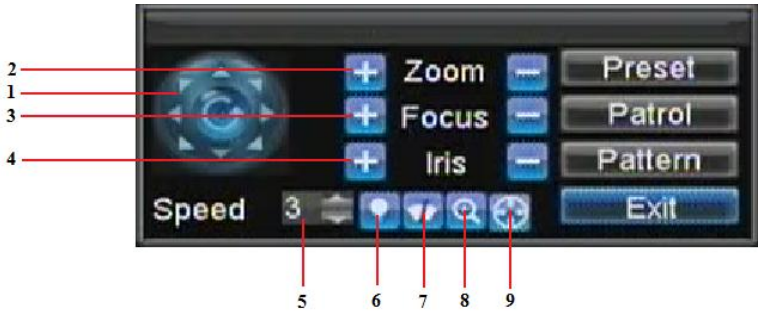

Figure 3. PTZ Control Interface

The controls on the PTZ panel include:

1. **Directional Pad/Auto-scan Buttons:** Controls the movements and directions of the PTZ. The center button is also used to start auto-scan of PTZ.
2. **Zoom:** Used to zoom in and out with the PTZ.
3. **Focus:** Used to adjust the focus of the PTZ.
4. **Iris:** Used to open up or close the iris of the PTZ.
5. **Speed:** Adjusts the movement speed of the PTZ.
6. **Light:** Turns PTZ light (if applicable) on and off.
7. **Wiper:** Turns PTZ wiper (if applicable) on and off.

8. **Zoom In:** Instantly zooms PTZ in.
9. **Center:** Centers PTZ.

Customizing Presets

Presets can be set to move your PTZ camera to a desired *preset* location.

To set up and call custom PTZ presets:

1. Enter the PTZ Control interface, shown in Figure 3, by selecting PTZ from the mouse menu or clicking the *PTZ* button on the front panel.
2. Select the *Preset* button to enter the Preset Management menu.
3. In the Preset Management menu, shown in Figure 4, you may:
   - **Configure Preset:** Use the PTZ control panel to adjust the position of the preset. Select a Preset number and click the *Set* button to save preset location.
   - **Clear Preset:** Select a Preset number and click the *Clear* button to delete the preset. You may also select the *Clear All* button to delete all presets.
   - **Call Preset:** Select a Preset and click the *Call* button.

Figure 4. Preset Management Menu

Note: Only valid presets can be called and deleted.

Customizing Patrols

Patrols can be programmed to move the PTZ to different key points and make it stay there for a defined duration before moving on to the next point. The key points are defined by presets which can be set by following the steps above in ***Customize Presets***.

To set up and call PTZ patrols:

1. Enter the **PTZ Control** interface, shown in Figure 3, by selecting PTZ from the mouse menu or clicking the *PTZ* button on the front panel.
2. Select the *Patrol* button to enter the Patrol Management menu, shown in Figure 5.

Figure 5. Patrol Management Menu

3. In the **Patrol Management** menu, you may:
   - **Configure Patrol:**
     1. Select a **Patrol Number** to set.
     2. Select valid presets (See ***Customize Presets***) and click the Set button to enter the Patrol configuration menu. A sequence should have at least 2 valid presets.
     3. Set the **Key Point No.**, **Duration**, and **Speed** (Figure 6). The **Key Point No.** determines the order at which the PTZ will follow while cycling through the patrol. The **Duration** refers to the time span to stay at the corresponding key point. The **Speed** defines the rate at which the PTZ will move to the current preset.

Figure 6. Patrol Configuration Menu

4. Click *OK* to return to **Patrol Management** menu and repeat steps 2-3 to configure other key points.
5. After all key points have been configured, click the defined key point No. and then click *Add* button to complete the settings.
6. Click *OK* button to save settings and exit the current menu.

- **Clear Patrol:**
  1. Select a valid Patrol Number.
  2. Click the *Clear* button to delete patrol.
- **Call Patrol:**
  1. Select a valid Patrol Number.
  2. Click the Start button to call the patrol, and select the Stop button to stop the patrol, as shown in Figure 7.

Figure 7. Patrol Management Menu

Customize Patterns

Patterns can be setup by recording the movement of the PTZ.

To set up and call PTZ patterns:

1. Enter the PTZ Control interface, shown in Figure 3, by selecting PTZ from the mouse menu or clicking the PTZ button on the front panel.
2. Select the *Pattern* button to enter the **Pattern Management** menu, shown in Figure 8.

Figure 8. Pattern Management Menu

3. Select a **Pattern Number**.
4. To record a new pattern, select the Run Record button to start recording of the movements of the PTZ. Use the PTZ control panel to move the PTZ. The PTZ movements will be recorded until the Stop Record button is clicked.
5. To run a pattern, click the *Run Pattern* button on a valid pattern. The PTZ will move according to the path that was defined until Stop Pattern is clicked.
6. Click *OK* to exit the current menu.

C H A P T E R 1 0

Camera Management

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OSD Settings

On Screen Display (OSD) settings can be configured in the Camera Management menu. The OSD is shown in each display during Live View mode and includes the time and date as well as the camera name.

To configure OSD settings:

1. Click Menu > Settings > Camera to enter the Camera Settings menu, shown in Figure 1.
2. Select channel to set up OSD settings under **Channel No.**, and click the *Set* button.
3. Configure desired OSD settings, as shown in Figure1.

Figure 1. OSD Settings Menu

4. Click the *Set* button to edit the OSD display position, including the camera name position and the date/time display position.

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Video Input & Output Mode Settings

To configure the video output mode settings:

1. Click Menu > Settings > General to enter the General Settings menu.
2. Click the **More Settings** tab to enter the More Settings menu, shown in Figure 2.

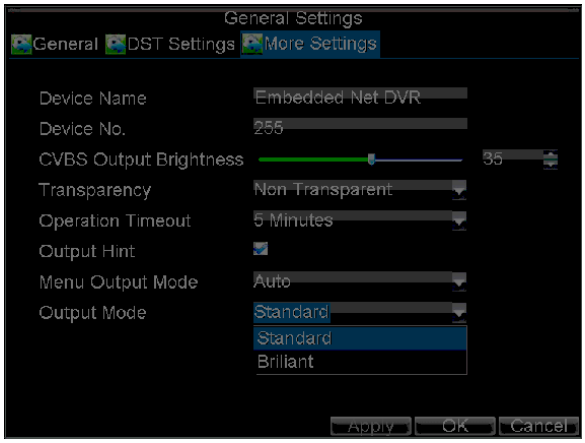

Figure 2. Video Output Mode Settings Menu

3. Set the video output mode to Standard or Brilliant according to different environmental conditions.

4. Select *OK* to save settings and exit the current menu.

To configure the video input mode settings:

1. Click Menu > Settings > Camera to enter the Camera Settings menu.
2. Click the **Advanced** tab to enter the Advanced Camera Settings menu, as shown in Figure 3.

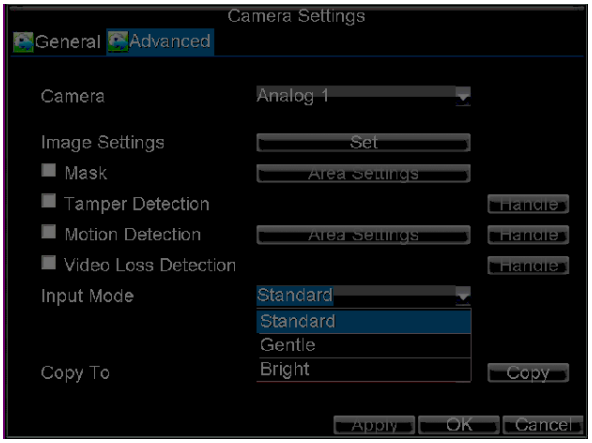

Figure 3. Video Output Mode Settings Menu

3. Select the Input Mode to Standard, Gentle or Bright.
4. Select *OK* to save settings and exit the current menu.

Image Settings

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Image settings such as the brightness, contrast, saturation and hue can also be adjusted in the Camera Management menu.

To adjust image settings:

1. Click Menu > Settings > Camera to enter the Camera Settings menu, shown in Figure 3.
2. Click the **Advanced** tab to enter the Advanced Camera Settings menu, as shown in Figure1. Select channel for image settings in **Camera**.
3. Click the *Set* button next to the Image Settings label.
4. Adjust the image settings, as shown in Figure 3. Brightness, contrast, saturation and hue can be adjusted in the menu. The adjustments of image settings will affect the live images and the recorded images.

Figure 3. Image Settings

Privacy Mask Settings

You may setup privacy mask to mask off sensitive or private areas in the field of view of a camera.

To configure privacy mask:

1. Click Menu > Settings > Camera to enter the Camera Settings menu.
2. Click the **Advanced** tab to enter the Advanced Camera Settings menu, as shown in Figure 4. Select channel for privacy mask settings in **Camera**.

Figure 4. Advanced Camera Settings Menu

3. Check the **Mask** checkbox to enable feature.
4. Click the *Area Settings* button to enter Area Settings menu.
5. Set mask area, as shown in Figure 5. Up to 4 areas can be configured.

Figure 5. Setting Mask Area

6. Select *Exit* to save settings and exit the Mask Area Settings interface.

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CHAPTER 11

HDD Management

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Managing HDDs

Initializing HDDs

A newly installed hard disk drive (HDD) must be first initialized before it can be used with your DVR. Initializing the HDD will erase all data on it.

To initialize a HDD:

1. Click Menu > HDD to enter the HDD Management menu, shown in Figure 1.

Figure 1. HDD Management Menu

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2. Select HDD to be initialized.
3. Click the *Init* button.
4. Select *OK* button to start initialization. After the HDD has been initialized, the status of the HDD will change from *Abnormal* to *Normal*.

Setting HDD Groups

Your DVR can separate multiple HDDs into groups. Videos from specified channels can be set to be recorded onto a particular HDD group.

To set a HDD group:

1. Click Menu > HDD to enter the HDD Management menu.
2. Select HDDs to be added to group.
3. Select *Group* button to enter Group Settings menu.
4. Set the **HDD Group Number**, as shown in Figure 2.

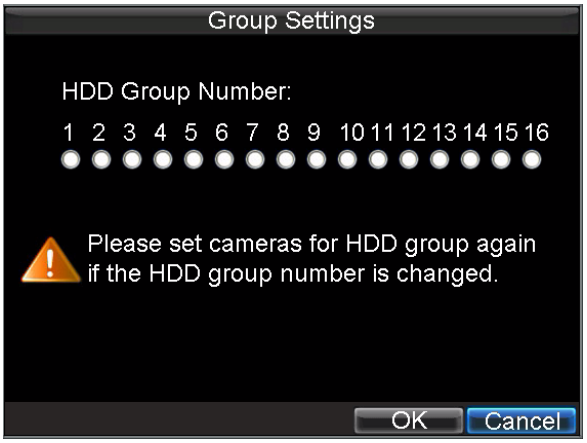
Group Settings
HDD Group Number:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Please set cameras for HDD group again if the HDD group number is changed.
OK
Cancel

Figure 2. HDD Group Settings Menu

5. Select *OK* to save settings and exit the Group Settings menu.

Note: By default settings, all HDDs belong to group 1.

Setting HDD Status

You may change the behavior of your HDD by changing its status. The status of a HDD can be set to read-only or read/write (R/W).

Setting HDD to Read-Only

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A HDD can be set to read-only to avoid important recorded files from being overwritten when the HDD becomes full.

To set a HDD to read-only:

1. Click Menu > HDD to enter the HDD Management menu.
2. Select HDD to be protected.
3. Select the *Property* button to enter the Property Settings menu, as shown in Figure 3.

Figure 3. HDD Property Settings Menu

4. Set HDD Status to Read-Only.
5. Select *OK* to save settings and exit the current menu.

Note:

1. Once set to read-only, the HDD cannot be written to until it is set back to read/write (R/W).
2. DS-7204HVI-ST, DS-7204HVI-ST/SE, DS-7208HVI-ST/SE, DS-7204HFI-ST, DS-7204HFI-ST/SE, DS-7200HVI-ST/SN, DS-7200HFI-ST/SN and DS-7204HVI-ST/L models can be installed with one HDD only, therefore, when the property is set to read-only, the recording of the device will be stopped.

Checking HDD Status

You may check the status of the installed HDDs on your DVR at anytime.

To check the status of a HDD:

1. Click Menu > HDD to enter the HDD Management menu.
2. The status of your HDD is listed under the **Status** column. If the status is listed as *Normal* or *Hibernate*, the HDD is in working order. If it is listed as *Abnormal* and has already been initialized, the HDD needs to be replaced. If the HDD is *Uninitialized*, you will need to initialize it before it can be use in your DVR. Please refer to ***Initializing HDDs*** for further instructions.

You may also view the SMART information of installed HDD SMART, abbreviation for Self-Monitoring, Analysis and Reporting Technology, is a monitoring system for hard disk drives to detect and report on various indicators of reliability in the hopes of anticipating failures.

To view SMART information of a HDD:

3. Click Menu > Maintenance > Log Search to enter the Log Search menu, shown in Figure 4.

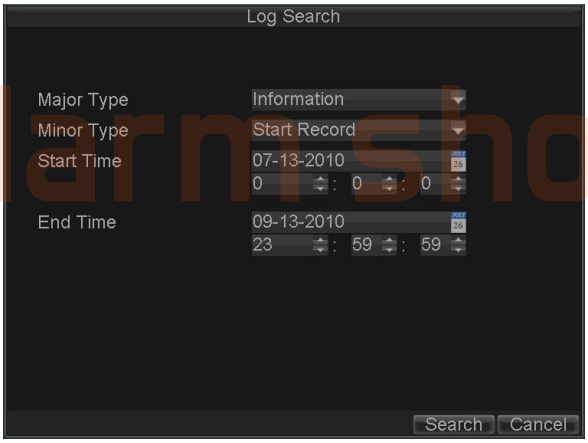

Figure 4. Log Search Menu

4. Set **Major Type** to *Information*.
5. Set **Minor Type** to *HDD SMART*.
6. Enter **Start Time** and **End Time**.
7. Click the *Search* button to begin log search. A list of results, similar to that of Figure 5, will be returned.

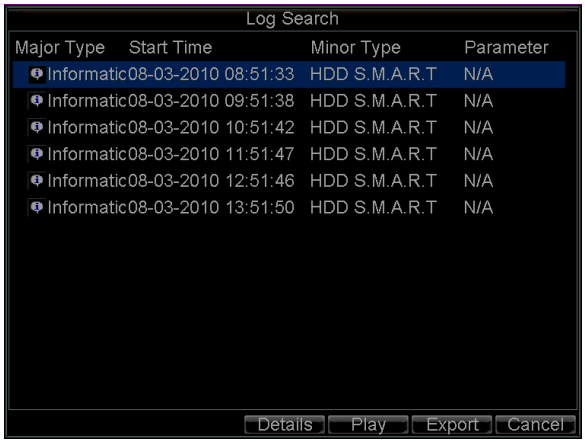
Log Search
Major Type Start Time Minor Type Parameter
Informatic 08-03-2010 08:51:33 HDD S.M.A.R.T N/A
Informatic 08-03-2010 09:51:38 HDD S.M.A.R.T N/A
Informatic 08-03-2010 10:51:42 HDD S.M.A.R.T N/A
Informatic 08-03-2010 11:51:47 HDD S.M.A.R.T N/A
Informatic 08-03-2010 12:51:46 HDD S.M.A.R.T N/A
Informatic 08-03-2010 13:51:50 HDD S.M.A.R.T N/A
Details Play Export Cancel

Figure 5. Log Search Results

8. Select log item to view and click the *Details* button.
9. A detail list of SMART information, as shown in Figure 6, will be displayed.

Figure 6. HDD SMART Information

User can also click Menu > HDD to enter the HDD management menu, as shown in Figure1, and then select the **Advance** option to enter the SMART menu, as shown in Figure 7. User can enable the SMART function and view the SMART information as well.

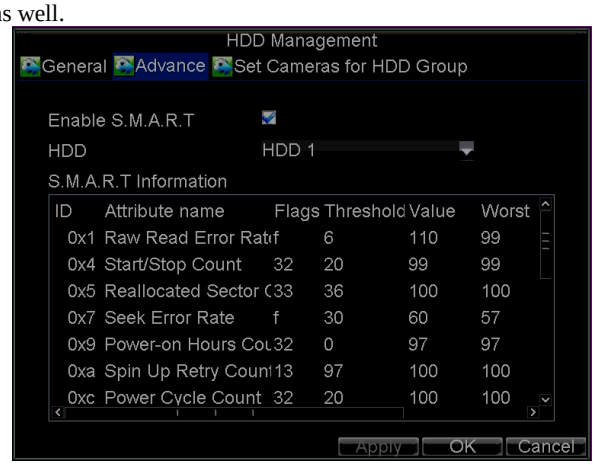
HDD Management
General Advance Set Cameras for HDD Group
Enable S.M.A.R.T
HDD HDD 1
S.M.A.R.T Information
ID Attribute name Flags Threshold Value Worst
0x1 Raw Read Error Rat f 6 110 99
0x4 Start/Stop Count 32 20 99 99
0x5 Reallocated Sector C 33 36 100 100
0x7 Seek Error Rate f 30 60 57
0x9 Power-on Hours Cou 32 0 97 97
0xa Spin Up Retry Coun 13 97 100 100
0xc Power Cycle Count 32 20 100 100
Apply OK Cancel

Figure 7. HDD SMART Menu

Configuring HDD Alarms

HDD alarms can be set to trigger when an HDD is uninitialized or in an abnormal state.

To set HDD alarms:

1. Click Menu > Settings > Exception to enter Exception menu, shown in Figure 8.

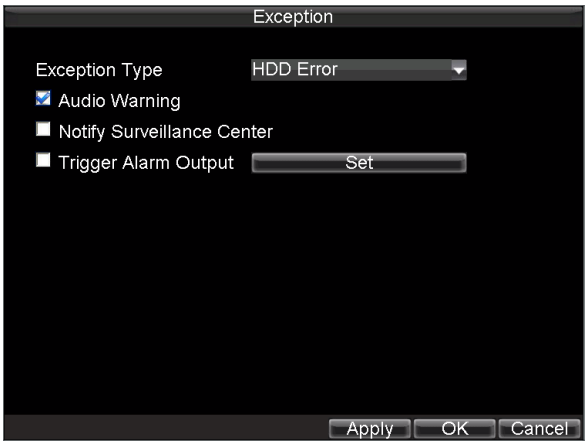

Figure 8. Exception Menu

2. Select HDD Error under **Exception Type**.
3. Select trigger action. Trigger actions are further explained in ***Understanding Exception Trigger Options***.

Note: The **Trigger Alarm Output** option is invalid for DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models as they provide no alarm in/out.

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C H A P T E R 1 2

DVR Management

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Configuring System Settings

Configuring General Settings

General settings such as the system language can be configured in the General Settings menu of your DVR.

To configure general settings:

1. Click Menu > Settings > General to enter the General Settings menu, shown in Figure 1.

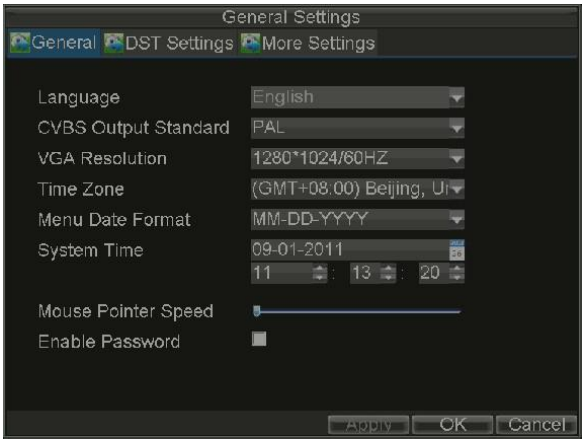

Figure 1. General Settings Menu

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2. Select the **General** tab.
3. Configure general settings, including:
   - **Language:** Default language used in DVR menus.
   - **CVBS Output Standard:** Video output standard: NTSC and PAL.
   - **VGA Resolution:** VGA output resolution. 1024 ×768/60HZ and 1280 ×1024/60HZ resolution is selectable.
   - **Time Zone:** Time zone to use for DVR.
   - **Menu Date Format:** Format for date.
   - **System Time:** System time and date.
   - **Mouse Pointer Speed:** Speed of mouse pointer.
   - **Enable Password:** Enable/disable system password.
4. Select *OK* to save settings and exit the current menu.

Note: If the video standard is different between the input and the output, you may notice flickering in Live View mode. After having modified the video standard, please reboot the device to validate the settings.

Configuring Advanced Settings

To configure more advanced settings:

1. Click Menu > Settings > General to enter the General Settings menu, shown in Figure 1.
2. Click the **More Settings** tab to enter the More Settings menu, shown in Figure 2.

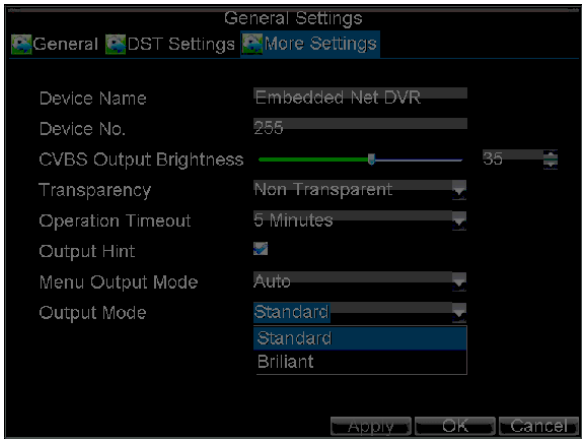

Figure 2. More Settings Menu

3. Configure the following settings:
   - **Device Name:** Name of the DVR used.
   - **Device No.:** Device number of DVR.
   - **CVBS Output Brightness:** Video output brightness. Level 0~63 can be configurable.
   - **Transparency:** Menu transparency.
   - **Operation Timeout:** Set timeout time for menu inactivity. For example, if timeout time was set to 5 minutes, after 5 minutes of inactivity in the General Settings menu, you'll be returned to the Live View.
   - **Output Hint:** Enable/disable video output hint for main or aux video output.
   - **Menu Output Mode:** Select the menu output mode to Auto, VGA/HDMI or CVBS. When the Auto is selected, the system will automatically detect whether the VGA/HDMI or CVBS interface is connected.

     Note: DS-7208HFI-ST and DS-7216HFI-ST can be customized with optional HDMI output interface.
   - **Output Mode:** Set the video output mode to Standard or Brilliant according to different environmental conditions.
4. Select *OK* to save settings and exit the current menu.

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Configuring RS-232 Port Settings

Note: This section is invalid for DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models as they provide no RS-232 interface.

To configure RS-232 devices to be used with the DVR:

1. Click Menu > Settings > RS232 to enter the RS-232 Settings menu, shown in Figure3.

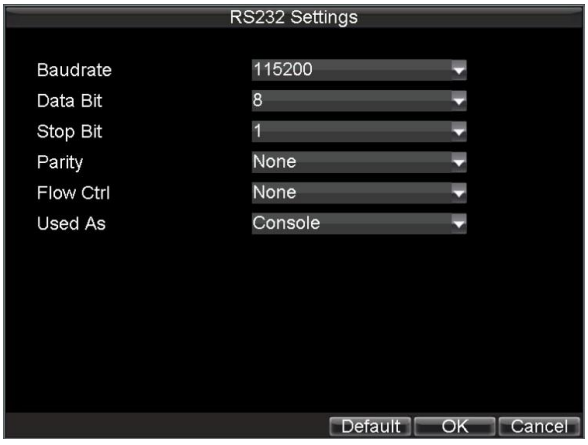

Figure 3. RS-232 Settings Menu

2. Configure RS-232 Settings.
3. The RS-232 port can be used in two ways:
   - **Parameter Control:** Connect a PC to the DVR using the PC serial port. Device parameters can then be set using software such as HyperTerminal. The serial port parameters must be the same as the DVR's when connecting with the PC serial port.
   - **Transparent Channel:** Connect a serial device directly to the DVR. The serial device will be controlled remotely by the PC through the network and the protocol of the serial device.

Managing User Accounts

By default settings, your DVR is configured with the user name of *admin* and the password of *12345*. The *Administrator* has the authority to add, delete or configure the user parameters.

Adding a New User

To add a new user:

1. Click Menu > Settings > User to enter the User Settings menu, shown in Figure 4.

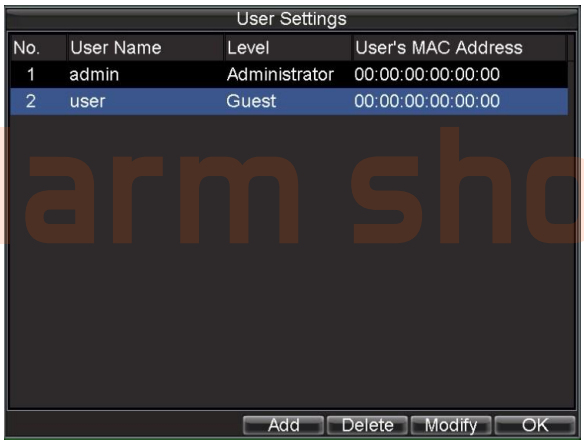

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Figure 4. User Settings Menu

2. Select the *Add* button to enter the **Add User** menu, shown in Figure 5.

   Note: Up to 31 users can be added.

Figure 5. Add User Menu

3. Enter information for new user, including **User Name**, **Password**, **Level** and **User's MAC**.
4. The **Level** is the user level and is separated into two tiers.
   - **Operator:** By default, the Operator user level has the authority to configure two-way audio in network settings and all parameters in channel settings.
   - **Guest:** By default, the Guest user can not configure network settings, but can configure the local playback as well as the remote playing in channel settings.
5. If **User's MAC** is configured and enabled, the user may only access the DVR from that particular MAC address.
6. Select the *Permission* button to enter the Permission Settings menu, shown in Figure 6.

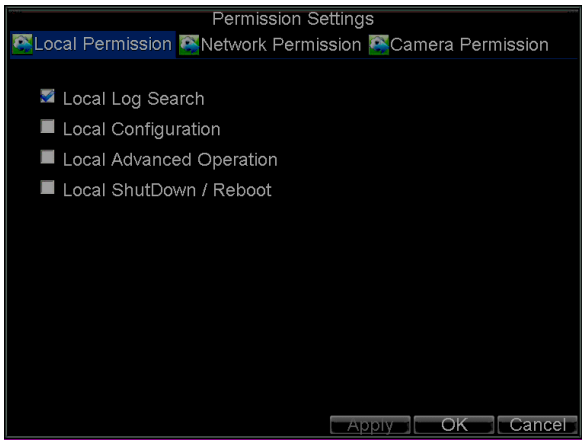

Figure 6. Permission Settings Menu

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7. Configure permission for local settings under Local Permission tab. The local settings include:
   - **Local Log Search:** Search and view logs of DVR.
   - **Local Configuration:** Configure and restore parameters to factory defaults. Introduce settings to or export settings from DVR.
   - **Local Advanced Operation:** HDD management (including the initialization and changing the properties of a disk). Ability to update system firmware as well as to stop the relay output
   - **Local Shutdown/Reboot:** Shutdown or reboot the DVR.
8. Click on **Network Permission** tab to configure network permission settings, as shown in Figure 7. The network settings include:

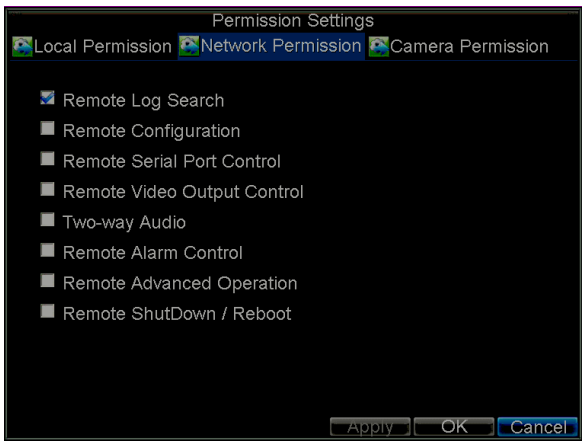

Figure 7. Network Permission Settings Menu

- **Remote Log Search:** Remotely view logs that are saved on the DVR.

- **Remote Configuration:** Remotely configure parameters, restore parameters to factory defaults and import settings to as well as export settings from DVR.
- **Remote Serial Port Control:** Configure settings for RS232 and RS485 ports.
- **Remote Video Output Control:** Configure settings for video output.
- **Two-way Audio:** Permission to use two-way radio between the remote client and the DVR.
- **Remote Alarm Control:** Remote alert or control the relay output of the DVR. Alarm and exception settings must be configured properly to upload to host.
- **Remote Advanced Operation:** Remotely manage hard disk drives (initializing and setting properties for HDDs). Permission to remotely update system firmware and stop relay output.
- **Remote Shutdown/Reboot:** Remotely shut down or reboot the DVR.

9. Click on the **Camera Permission** tab to configure channel permission, as shown in Figure 8. The channel settings include:

Figure 8. Camera Permission Settings Menu

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- **Remote Live View:** Select and view live video over the network.
- **Local Manual Record:** Locally start and stop manual recording on any of the channels.
- **Remote Record Starting:** Remotely start and stop manual recording on any of the channels.
- **Local Playback:** Locally play recorded files that are on the DVR.
- **Remote Playback:** Remotely play and download recorded files that are on the DVR.
- **Local PTZ Control:** Locally control PTZ cameras.
- **Remote PTZ Control:** Remotely control PTZ cameras.
- **Local Video Export:** Locally backup recorded files from any of the channels.

10. Click the *OK* button to save and exit menu.

Note: If you forget the password to your DVR, contact your supplier with the serial number of your DVR to obtain a secure code to reset your DVR.

Deleting a User

To delete a user from the DVR:

1. Click Menu > Settings > User to enter the User Settings menu.
2. Select user to delete.
3. Click the *Delete* button to delete user.
4. Click the *OK* button to exit menu.

Note: No deletion is allowed for the *Administrator*.

Modifying a User

To modify a user:

1. Click Menu > Settings > User to enter the User Settings menu.
2. Select user to modify.
3. Click the *Modify* button to enter the Modify menu, shown in Figure 9.

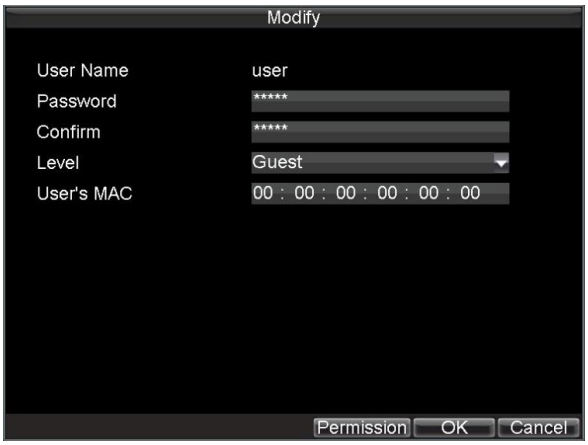

Figure 9. Modify User Menu

4. Edit user information.
5. To modify user permissions, click on the privileges button. Permissions settings are defined in the ***Adding a New User*** section described above.
6. Click the *OK* button to save and exit the menu.

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Importing & Exporting Configuration

Configuration information from your DVR can be exported to a USB device and imported into another DVR. This will allow you to efficiently setup the same configuration on numerous DVRs.

To import or export DVR configuration:

1. Click Menu > Maintenance > Configuration to enter the Import/Export Configuration menu, shown in Figure 10.

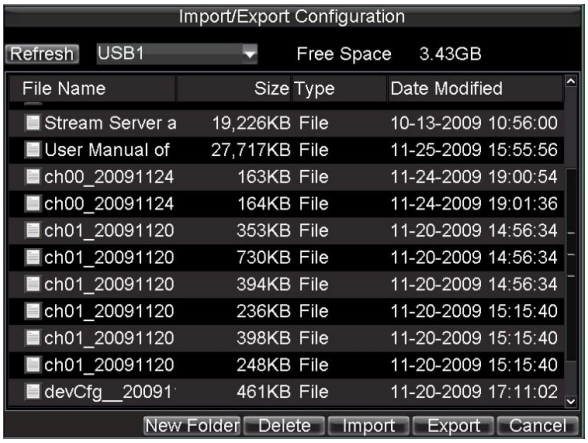

Figure 10. Import/Export Configuration Menu

2. Click *Export* to export a configuration file to USB device. USB device must be connected at this point to the DVR.
3. To import a configuration file, select the file from the USB device and click the Import button.
4. After the import process is completed, the system will automatically reboot the DVR.
5. Click *Cancel* to exit the current menu.

Configuring DST Settings

To configure the DST settings:

1. Click the Menu >Configuration>General to enter the General Settings interface.
2. Choose the **DST Settings** tab.

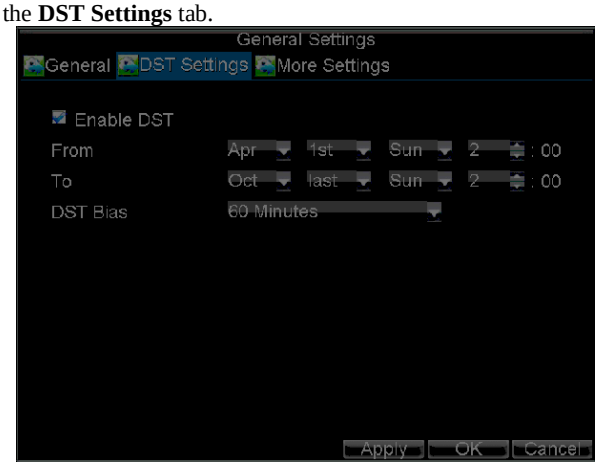

Figure 11. DST Settings Menu

3. Check the checkbox before the **Enable DST** item.
4. Set the start tine and end time of DST period. The end time must be later than the start time. When the DST period ends, the system will reverts to the standard local time.
5. Set the DST bias to 30 minutes, 60 minutes, 90 minutes or 120 minutes.
6. Click the *OK* button to save and exit menu.

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Updating System Firmware

The firmware on your DVR can be updated by using two methods. These methods include updating via an USB device or over the network via a FTP server.

To update via an USB device:

1. Connect USB device to DVR. The firmware file must be located in the root directory of your USB device.
2. Click Menu > Maintenance > Upgrade to enter the Firmware Update menu, shown in Figure 12.

Figure 12. Firmware Update Menu

3. Select the **Local Upgrade** tab.
4. Select the firmware on the USB device.
5. Select Upgrade to begin the update process.
6. After the system firmware has been updated, reboot the DVR.

To update via a FTP server:

1. Configure PC (running FTP server) and DVR to be in the same Local Area Network. Run the third-party TFTP software on the PC and copy the firmware into the root directory of TFTP.
2. Enter the Firmware Update menu by clicking Menu > Maintenance > Upgrade.
3. Select the **FTP** tab, shown in Figure 13.

Figure 13. FTP Firmware Update

4. Input the FTP server address.
5. Select Upgrade to begin update process.
6. After the system firmware has been update, reboot the DVR.

Note: If the DVR fails to update, please contact your system supplier for further assistance.

Restoring Default Settings

To restore default factory settings to your DVR:

1. Click Menu > Maintenance > Default to enter the Default Settings menu, shown in Figure 14.

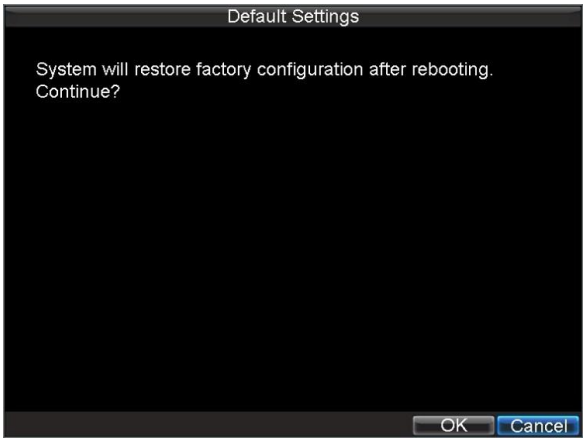

Figure 14. Default Settings Menu

2. Select OK to restore factory defaults.

Note: Network information such as IP address, subnet mask and gateway will not be restored.

Viewing System Information

To view system information:

1. Click Menu > Maintenance > Information to enter the Information menu, shown in Figure 15.

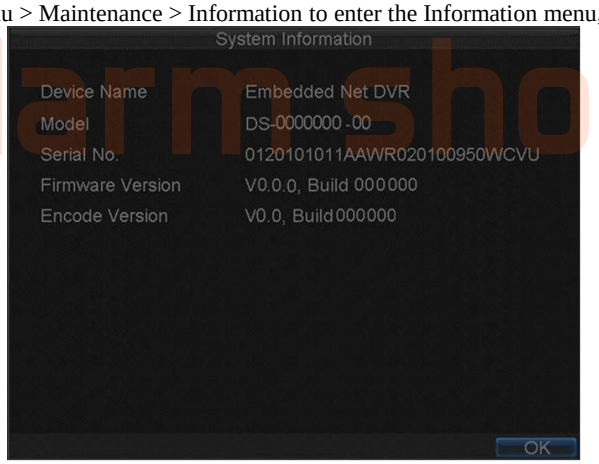

Figure 15. System Information

2. Select *OK* to exit to the previous screen.

Viewing System Log

Many events of your DVR are logged into the system log.
To access the system logs and search for these events:

1. Click Menu > Maintenance > Log Search to enter the Log Search menu, shown in Figure 16.

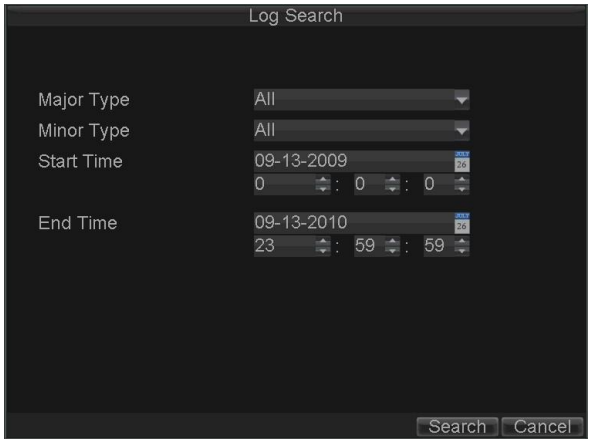

Figure 16. Log Search Menu

2. Set search parameters.
3. Click the *Search* button to start search. If logs matching the search conditions are found, it will be displayed in a list of search results as shown in Figure 17.

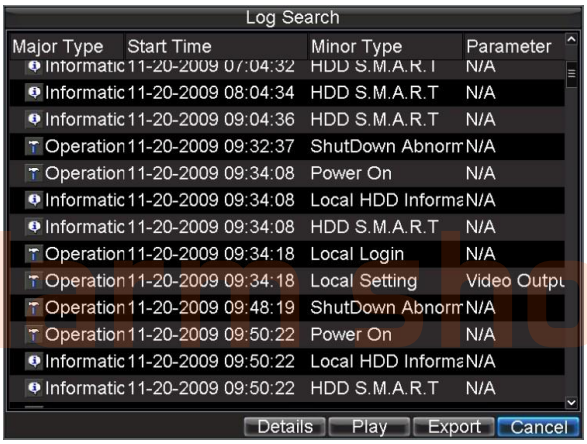
Log Search
Major Type
Start Time
Minor Type
Parameter
Informatic 11-20-2009 08:04:34 HDD S.M.A.R.T N/A
Informatic 11-20-2009 09:04:36 HDD S.M.A.R.T N/A
Operation 11-20-2009 09:32:37 ShutDown Abnorm N/A
Operation 11-20-2009 09:34:08 Power On N/A
Informatic 11-20-2009 09:34:08 Local HDD Informa N/A
Informatic 11-20-2009 09:34:08 HDD S.M.A.R.T N/A
Operation 11-20-2009 09:34:18 Local Login N/A
Operation 11-20-2009 09:34:18 Local Setting Video Outpu
Operation 11-20-2009 09:48:19 ShutDown Abnorm N/A
Operation 11-20-2009 09:50:22 Power On N/A
Informatic 11-20-2009 09:50:22 Local HDD Informa N/A
Informatic 11-20-2009 09:50:22 HDD S.M.A.R.T N/A
Details
Play
Export
Cancel

Figure 17. Log Search Results

4. To view more detailed information about a particular log entry, select the log and click the *Details* button.
5. If applicable, you may also view the associated video to the selected log entry by clicking the *Play* button.
6. Log files can also be exported onto a USB device. To export a log file, connect a USB device to the DVR, select the log file to export and click the *Export* button to enter the Log Search Export menu, shown below in Figure 17. Click the *Export* button to export log onto USB device. The exported file will be named according to the time it was exported (e.g., 20100911143958logBack.txt).

Figure 18. Log Search Export Menu

7. Click *Cancel* to exit the current menu.

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C H A P T E R 1 3

Appendix

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Glossary

- **Dual Stream:** Dual stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network. The two streams are generated by the DVR, with the main stream having a maximum resolution of 4CIF and the sub-stream having a maximum resolution of CIF.
- **DVR:** Acronym for Digital Video Recorder. A DVR is device that is able to accept video signals from analog cameras, compress the signal and store it on its hard drives.
- **HDD:** Acronym for Hard Disk Drive. A storage medium which stores digitally encoded data on platters with magnetic surfaces.
- **DHCP:** Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.
- **HTTP:** Acronym for Hypertext Transfer Protocol. A protocol to transfer hypertext request and information between servers and browsers over a network
- **DDNS:** Dynamic DNS is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a domain name server to change, in real time (ad-hoc) the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.
- **Hybrid DVR:** A hybrid DVR is a combination of a DVR and NVR.
- **NTP:** Acronym for Network Time Protocol. A protocol designed to synchronize the clocks of computers over a network.
- **NTSC:** Acronym for National Television System Committee. NTSC is an analog television standard used in such countries as the United States and Japan. Each frame of an NTSC signal contains 525 scan lines at 60Hz.
- **NVR:** Acronym for Network Video Recorder. An NVR can be a PC-based or embedded system used for centralized management and storage for IP cameras, IP Domes and other DVRs.
- **PAL:** Acronym for Phase Alternating Line. PAL is also another video standard used in broadcast televisions systems in large parts of the world. PAL signal contains 625 scan lines at 50Hz.
- **PTZ:** Acronym for Pan, Tilt, Zoom. PTZ cameras are motor driven systems that allow the camera to pan left and right, tilt up and down and zoom in and out.
- **USB:** Acronym for Universal Serial Bus. USB is a plug-and-play serial bus standard to interface devices to a host computer.

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FAQ

• **Why does my DVR make a beeping sound after booting?**

There are a few reasons for the warning beep your DVR makes after booting.

1. There is no HDD present in the DVR.
2. The HDD has not been initialized.
3. The HDD is defective.

If you wish to use your DVR without any HDDs, you may disable this warning beep in the Exception Settings menu (See ***Setting Exception***).

• **Why does the DVR seem unresponsive when operating with the IR remote control?**

If your DVR seem unresponsive when using the IR remote and you have read through the section ***Using the IR Remote Control***, please check:

1. Check that the batteries are installed correctly in the remote, making sure that the polarities of the batteries are not reversed.
2. Make sure the batteries are fresh and are not out of power.
3. Make sure the remote has not been tampered with.
4. Check around and make sure there are no fluorescent lamps in use.

• **Why does the PTZ seem unresponsive?**

If the PTZ seem unresponsive, please check:

1. Check that the RS-485 cable is properly connected.
2. Check that the dome decoder type is correct.
3. Check that the dome decoder speed configuration is correct.
4. Check that the dome decoder address bit configuration is correct.
5. Check to make sure that the main board RS-485 interface is not broken.

• **Why is there no video recorded after setting the motion detection?**

If there are no recorded video after setting the motion detection, please check:

1. Check that the recording schedule is setup correctly by following the steps listed in ***Scheduling a Recording***.
2. Check that the motion detection area is configured correctly (See ***Setting Up Motion Detection***).
3. Make sure that channels are being triggered for motion detection (See ***Setting Up Motion Detection***).

• **Why doesn't the DVR detect my USB export device for exporting recorded files?**

There's a chance that the DVR and your USB device is not compatible. Please refer to our company's website to view a list of compatible devices.

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